Plan of Conservation & Development - 2001

Borough of Naugatuck, Connecticut

Naugatuck Planning Commission

Effective Date: April 28, 2001

PLAN OF CONSERVATION AND DEVELOPMENT

BOROUGH OF NAUGATUCK, CONNECTICUT

Naugatuck Planning Commission

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MARCH 2001

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INTRODUCTION AND PREFACE

Over the last 15 months, the Planning Commission has been engaged in a process of updating the Naugatuck Plan of Conservation and Development. This update builds upon previous work done as part of the preparation of the 1973 Plan of Development and the 1989 Update of that Plan. It also reflects broad regional concepts included in the 1998 Regional Plan of Conservation and Development adopted by the Council of Governments of the Central Naugatuck Valley.

As part of the planning process, a series of meetings have been held and interim reports have been issued for review and discussion. In addition, a formal public hearing was held on the plan.. As a result of this dialogue, this Plan of Conservation and Development - 2001 has been prepared. The Plan is organized in four basic sections:

- Background and Existing Conditions
- Analysis and Future Implications
- Proposed Land Use Plan and Supporting Facilities
- Implementation Agenda

This format is intended to give the residents of Naugatuck, involved boards and commissions and the elected officials a clear understanding of the issues, policies and actions in the Plan of Conservation and Development - 2001.

The Borough of Naugatuck has changed in many ways over the last several decades. As is expected, with change has come a growing awareness of the need to plan for the future. Concerns have emerged about the future preservation and conservation of open space, protecting the natural environment, managing growth to maintain the quality of life in Naugatuck, strengthening the economic base and providing the wide range of infrastructure and facilities to serve the community. The Naugatuck Planning Commission, in the preparation of this Plan of Conservation and Development - 2001 has established a goal of addressing these concerns over the next 10 years and beyond with a balanced approach. The Commission desires to create a framework for planning decisions which will provide current and future Naugatuck residents with the opportunity to live, work, learn and play in a community in which they can take pride. The Action Agenda at the end of the Plan calls on a wide range of Borough boards and commissions to join in the implementation of the vision presented in the Plan. Only through this community effort can the vision be achieved.

I. BACKGROUND AND EXISTING CONDITIONS

A. Natural Resource Assessment

Introduction

Understanding the composition and distribution of Naugatuck's environmental features is key in planning for the Borough's future. This is because the natural resources provide a number of important functions including habitat for a diverse range of flora and fauna, flood mitigation, and active and passive recreational opportunities. In addition, they define the physical setting while contributing to the overall Borough character. Developing a strategy to protect the natural resource features is very important to maintain the natural systems at work and to help preserve the Borough's overall character.

What follows is an analysis of Naugatuck's environmental setting. To create the basis for this analysis, a series of maps have been prepared depicting the natural resource features located within the Borough. With the composition and distribution of these features clearly defined, protection measures can be considered to ensure the integrity of these important features for years to come.

1. Watersheds

A watershed or drainage basin is the land area from which water drains to a given point. All the surface water that drains Naugatuck's 16.5 square miles begins its flow into one of 6 sub-regional watersheds (See Watershed Map). All of the Borough's sub-regional watersheds flow into the Naugatuck River then into the Housatonic River and ultimately into Long Island Sound. By delineating these watershed boundaries and the hydrologic features within them, a clear picture can be made of what land area is being impacted by changes occurring to the local watercourses.

State and Federal regulatory agencies make available valuable information that helps assess the composition and distribution of important natural resources on a watershed basis. For example, the Federal Emergency Management Agency (FEMA) produces flood-hazard zone maps for the Borough. These maps delineate the 100-year and 500-year floodplains, important features that provide floodwaters a path to travel and provide important flora and fauna habitat. The FEMA maps used in this assessment (See Floodplains Map) date back to 1979, however, they are scheduled to be updated in the next year.

The Connecticut Department of Environmental Protection (DEP) provides information on wetlands and water quality for the entire state. Wetlands in Connecticut are designated by soil classification, as opposed to plant life or water cover. Wetlands, therefore, can include both areas that are associated with waterways and water bodies as well as locations unassociated with a flowing stream (See Wetlands Soils Map). As such, wetlands generally do not tend to get named separately from the stream which they are associated unless they are particularly extensive with evident water cover such that they are identified as a swamp.

The following briefly describes the characteristics of each of the watersheds.

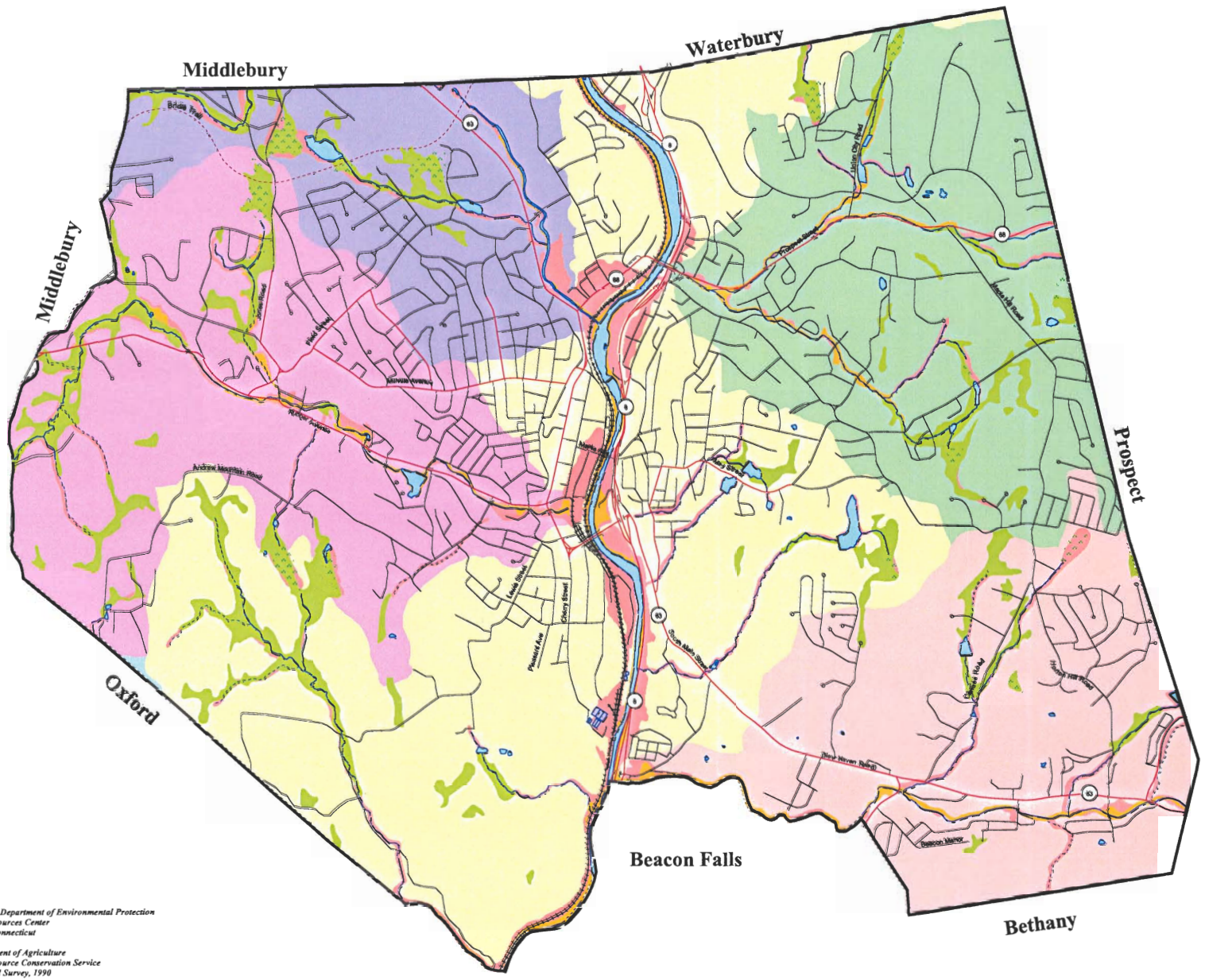
- **Hop Brook Watershed**

  The Hop Brook watershed drains approximately 1025 acres in the northwest corner of the Borough. With Hop Brook Lake to the north, the river is a resource for regional recreational activity. Development in the watershed is focused in the lower to mid reaches with density increasing as you move towards the confluence with the Naugatuck River. Water quality in the Hop Brook has been classified as a "B" with a proposed upgrade to "A" in accordance with DEP water quality classification system for surface water[1]. Wetland soils make up approximately 7.7% of the watershed and are concentrated primarily along the Pigeon Brook tributary, particularly northwest of Barbers Pond. In addition, a large wetland system is found along the Shattuck Brook in the far northwest corner of the Borough. The 100-year and 500-year floodplains are located along the Hop Brook, Pigeon Brook tributary and Shattuck Brook. According to the FEMA maps, the 500-year floodplain is narrowly defined along all watercourses in the watershed, while the 100-year floodplain occurs only on a one-mile stretch along the Hop Brook upstream from where it flows into the Naugatuck River.

- **Long Meadow Pond Brook**

  The Long Meadow Pond Brook watershed drains approximately 2088 acres in the west side of the Borough. There are no named tributaries to the Long Meadow Pond Brook, however there are a few unnamed intermittent streams that flow into the Brook as well as a few isolated streams. Andrews Mountain Brook, which flows to the south east of Long Meadow Pond Brook, is the only other named stream in the watershed. Development in the watershed is focused in the lower reaches as well as along Rubber Avenue, which bisects the watershed in an east – west direction. The Long Meadow Pond Brook contains two dams creating the Armory Pond and the Naugatuck Ice Company Pond. While the water quality of Long Meadow Pond Brook is not classified under the DEP's classification system, both of the ponds are classified as a "B" with no proposed upgrade. Wetland soils make up approximately 8.4% of the watershed and are primarily concentrated in the upper reaches of Long Meadow Pond Brook. The 500-year floodplain is well defined along the entire length of Long Meadow Pond Brook, including its unnamed intermittent tributaries. The 100-year floodplain runs intermittently along the Long Meadow Pond Brook and to the northwest along Jones Road.

[1] See appendix A for a description of the surface water classifications



LEGEND

WETLANDS
- Wetland Soils

WATERSHEDS
- Beacon Manor Brook
- Fulling Mill Brook
- Hop Brook
- Little River
- Long Meadow Pond Brook
- Naugatuck River

FLOODPLAINS
- 100-Year Floodplain
- 500-Year Floodplain

Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

US Department of Agriculture
Natural Resource Conservation Service
Detailed Soil Survey, 1990

Q-3 Flood Data as derived
from Flood Insurance Rate Maps (FIRM)
Federal Emergency Management Agency, 1996

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Wetlands, Watersheds & Floodplains

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Hamden, Connecticut March 2001

- **Naugatuck River**

  The Naugatuck River watershed is the principal watershed in the Borough draining approximately 3812 acres. Dividing the Borough in half from north to south, the Naugatuck River receives all the water from surrounding watersheds. The river is multi-use river providing a resource for recreational activity as well as industrial use. In addition, the river has also served as an outfall for treated sewage effluent. Development over the years has been heaviest in this watershed and focused along the main stem of the river. While the land surrounding the Naugatuck River is undoubtedly urbanized there are large areas in the watershed that are undeveloped. This is particularly true along the Spruce Brook, which flows through the Naugatuck State Forest in the southwest section of the watershed. Over the years concern regarding water quality has spawned efforts to curb industrial by-product run-off and has led to an aggressive habitat restoration effort to return anadramous fish runs to the river. Along the main stem of the Naugatuck water quality is classified as "C" with a proposed upgrade to "B". A portion of the watershed is classified as public water supply including Mulberry Reservoir, located in the northeast portion of the watershed. This reservoir has a water quality classification of superior "AA". Wetland soils make up 8.7% of the watershed and are concentrated around Mulberry Reservoir and May Street Pond to the east; Spruce Brook to the west; and on the east side of Great Hill to the north. Along the main stem of the Naugatuck River the 100-year floodplain is narrowly defined while the topography surrounding the river allows for a much broader 500-year floodplain. In addition, the tributaries within the watershed contain only narrowly defined 500-year floodplains.

- **Fulling Mill Brook**

  The Fulling Mill Brook watershed drains approximately 1898 acres in the northeast corner of the Borough. The watershed contains two principal rivers: Fulling Mill Brook and Cold Spring Brook which converge in the vicinity of City Hill Road and North Main Street. Numerous ponds scattered across the landscape characterize the watershed. These ponds include Schilden Pond, Union Ice Company Pond and Water Company Pond #1 all located in the northeast section of the watershed. Development in the watershed is focused in the lower reaches of the watershed as well as along Maple Hill Road and the City Hill Road and May Street corridor. The water quality of Fulling Mill Brook is not classified under the DEP's classification system. However, the southeast section of the watershed is classified as public water supply. This region contains Hopkins Reservoir, which has a superior "AA" rating. Wetland soils make up 6.4% of the watershed and are concentrated in the upper reaches of the watershed. The 100-year floodplain is narrowly defined along the Fulling Mill Brook and Cold Spring Brook while the 500-year floodplain is generally located in the upper reaches of the watershed.

- **Beacon Hill Brook**

  The Beacon Hill Brook watershed, known locally as the Beacon Manor Brook, drains approximately 1694 acres in the southeast side of the Borough. The watershed contains two tributaries to the Beacon Hill Brook: Straitsville Brook, converging in the vicinity of Candee Road and Marks Brook, converging just east of Fox Hill Road. Both of these tributaries flow out of reservoirs managed by the Connecticut Water Company. Marks Brook flows from Straitsville Reservoir which is an active public water supply along the Prospect border while Straitsville Brook flows from Upper Candee Reservoir and into Lower Candee Reservoir, both of which are not currently active but act as an emergency supply if needed. Development is focused along Route 63, which bisects the watershed from the east, and Horton Hill Road, which enters the watershed from the north. The water quality of Beacon Hill Brook and its tributaries is not classified by the DEP, however the Lower Candee Reservoir and Straitsville Reservoir are both classified as superior "AA". Wetland soils make up 4.6% of the watershed and are concentrated along the Straitsville Brook above Lower Candee Reservoir as well as the middle reaches of Marks Brook below Straitsville Reservoir. The 100-year floodplain is narrowly defined along the Beacon Hill Brook while the 500-year floodplain is narrowly defined along its tributaries.

- **Little River**

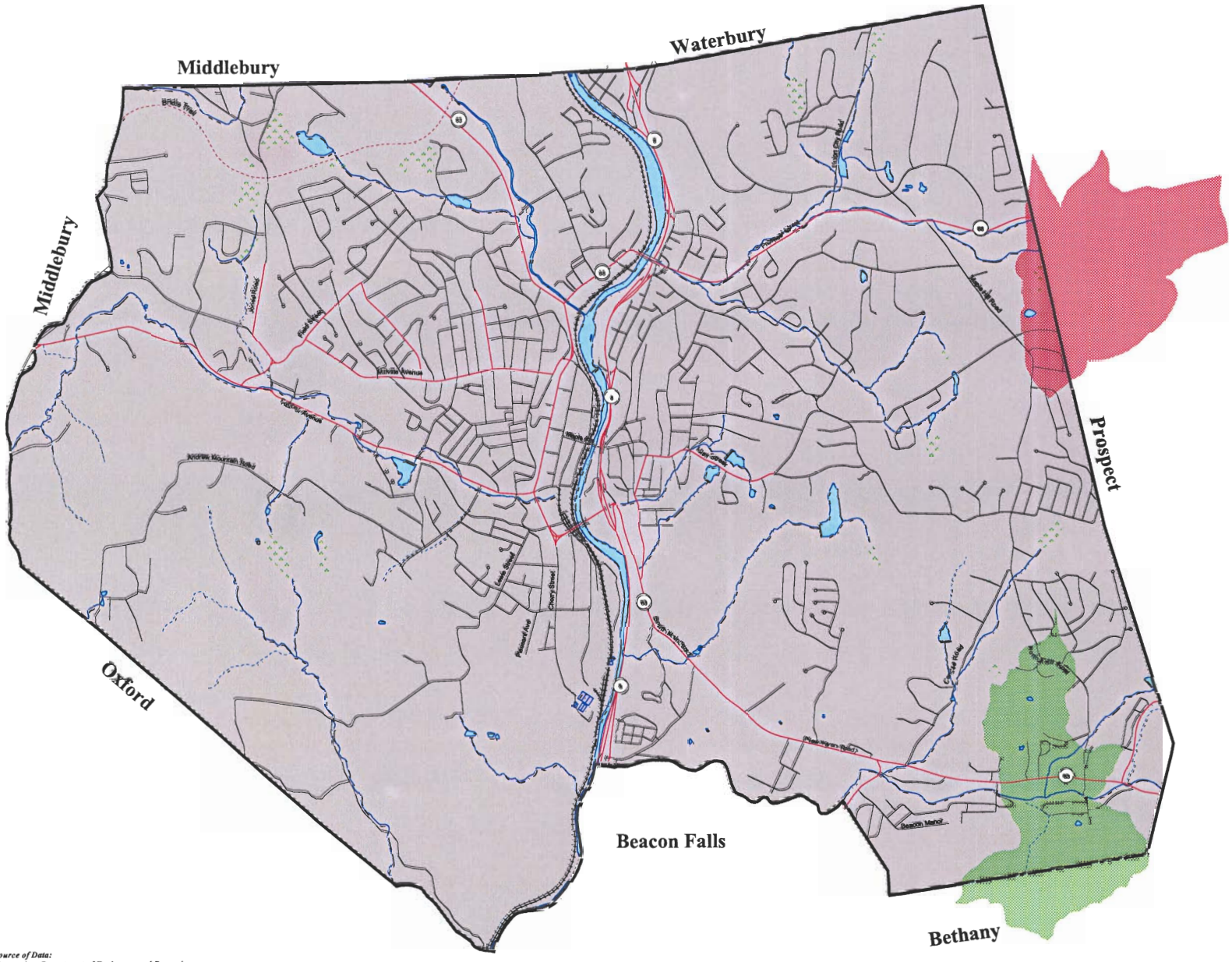
  The Little River watershed is the smallest watershed in the Borough draining just 5 acres along the Oxford border. Due to the relative size of this watershed with respect to the Borough, a detailed assessment is not warranted.

2. Aquifer Protection Areas

The Connecticut Water Company and the DEP have identified two aquifer protection areas within the Borough of Naugatuck (See Aquifer Map). These state-designated areas have been identified as contributing water to public water supply aquifers that service at least 1000 people in the surrounding region. Due to the importance of these public water supplies, in 1993 the Connecticut State Legislature promulgated an Act designed to protect against contamination of these groundwater resources. The Act requires that all well fields and its corresponding recharge area servicing more then 1000 people are mapped and comprehensive land use regulations be adopted.

The two aquifer protection areas within the Borough have been mapped at different levels of detail. As part of the Aquifer Protection Program, the DEP requires all towns with public water supply wells meeting the criteria above to:

- Prepare general (Level B) maps of the areas of contribution and recharge areas for all wells in stratified drift aquifer areas. This includes proposed wells identified in approved utility Water Supply Plans.



LEGEND

- Preliminary Aquifer Protection Area (Level B)
- Final Aquifer Protection Area (Level A)

Source of Data:
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

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Aquifer Protection Areas

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Hamden, Connecticut March 2001

- Prepare detailed (Level A) maps of the area of contribution and recharge areas for all wells in stratified drift aquifer areas no later then 3 years after the adoption by DEP of regulation standards. This includes proposed wells identified in approved utility Water Supply Plans.

To date level B mapping has been completed for the entire state. As the DEP continues work on the regulation standards and level A mapping, municipalities are being encouraged by the DEP to eonsider how they can protect these important resource areas.

Of the two aquifer protection areas within the Borough, the Marks Brook Well Field located in the Beacon Manor Brook watershed has been mapped at the more detailed level A standard. The other aquifer protection area located in the Fulling Mill Brook watershed (along the Prospect border) has been mapped to the more general level B standard.

3. Soil Types

There are 4 predominate soil associations in Naugatuck: Paxton-Woodbridge-Ridgebury; Charlton-Hollis-Leicester; Hollis-Charlton-Rock outcrop and Agawam-Hinkley-Walpole.

- **Paxton-Woodbridge-Ridgebury**

  The Paxton-Woodbridge-Ridgebury group, located predominately in the west side of the Borough, tends to be upland soils located along hillsides, ridges and side slopes. Historically, these areas have been cleared of trees and stones and were once farmed. In more recent years, these areas have been used for community development or are left idle, particularly near the more urbanized areas. While this soil group has good potential for community development, the major soil types have poor potential for on-site septic systems because of the slow permeability and seasonally high water table. This group has good potential for farming and trees.

- **Charlton-Hollis-Leicester**

  The Charlton-Hollis-Leicester group, located in the north-central (west of the Naugatuck River) and east-central portions of the Borough, tends to be upland soils located on broad glacial till plains. Historically these areas have been cleared of trees and stones and use for farming. Some may still be used for hay, corn, vegetables or orchards. This group has a fair potential for community development. It is limited by the shallowness to bedrock of the Hollis soils and the wetness of the Leicester soils. This group has a good potential for farming and trees.

- **Hollis-Charlton-Rock Outcrop**

  The Hollis-Charlton-Rock Outcrop group located in the south-central, southeast and north-central (east of the Naugatuck River) portions of the Borough, tends to be upland soils located on steeper slopes. This group is poorly suited for farming

and most areas are very wooded. In addition, this group has poor potential for community development due to its shallowness to bedrock, steep slopes and rock outcrops.

- **Agawam-Hinkley-Walpole**

  The Agawam-Hinkley-Walpole group, located primarily along the Naugatuck and Beacon Manor Brook portions of the Borough, tends to be flat, upland soils. Historically, many areas have been used for farming at one time. This soil group has good potential for community development, farming and trees.

- **Steep Slope Soils**

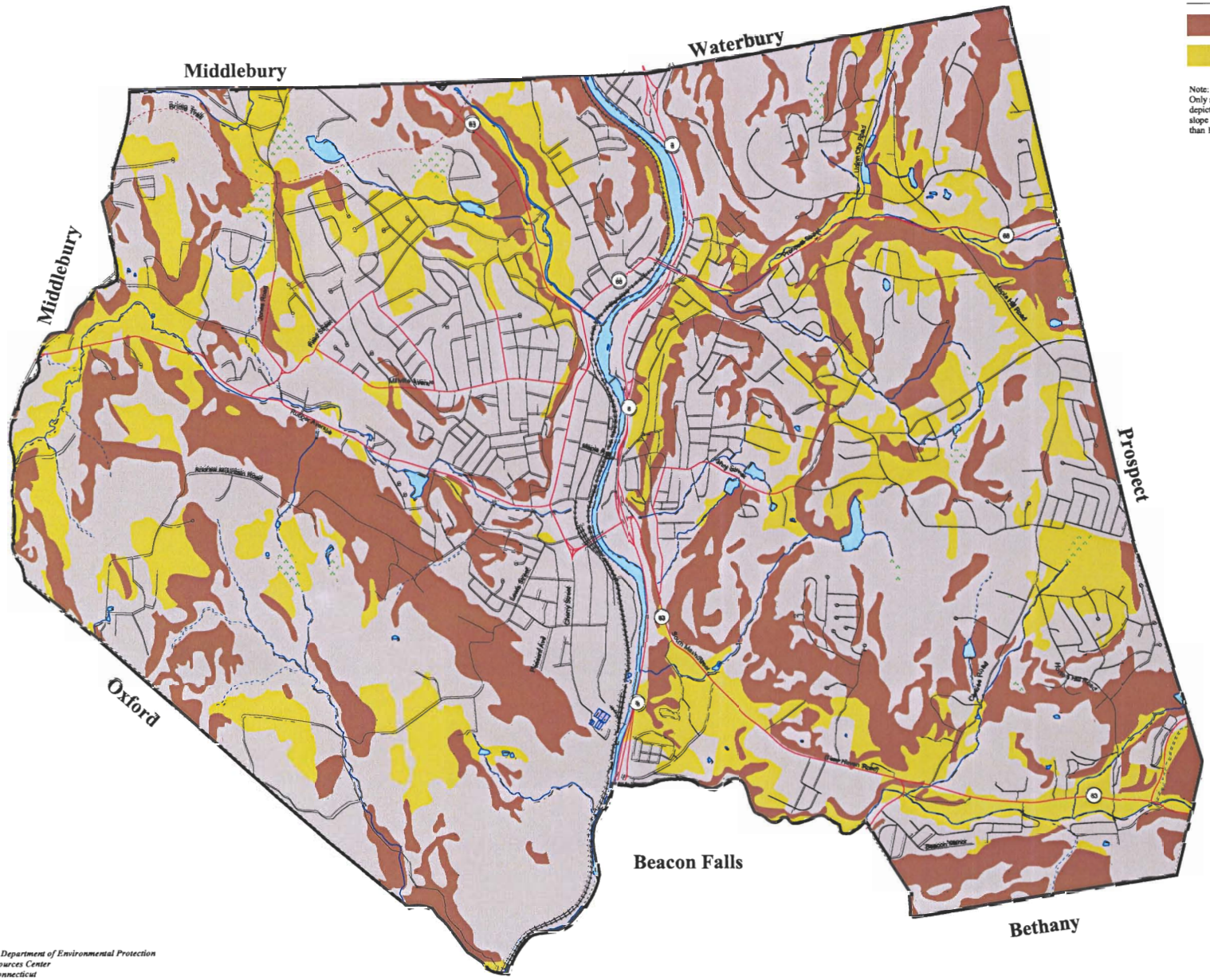
  The terrain in Naugatuck is notable in part for its varying topography and steep slopes. In this assessment, steep slopes are defined as those soil types with a slope of 15% or greater. This varying terrain helps form the community character of the Borough and provides unique habitats for a variety of flora and fauna. However, these slopes can also limit development due to the difficulty of building on such steep topography. In the past, lack of technology has limited development to the valleys and other relatively flat areas of the Borough. Over the years advances in building techniques and technology has allowed development to begin encroaching on the steep topography of the Borough. While the technology is available to build in these steep areas, it is expensive and in some cases not practical. Mapping these steep slope areas (See Slope Map) illustrates that the steep slopes are widely dispersed and make up 22.6% of Naugatuck's land area. Identifying the other 77.4% of the borough that has a slope of less then 15% illustrates areas where development would be best suited based solely on topography.

- **Prime and Important Farmland Soils**

  Prime and Important Farmland Soils is land that has been identified by the United States Department of Agriculture (USDA) as having the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oil seed crops. These lands have the soil quality, growing season and moisture supply needed to economically produce sustained crop yields when treated and managed according to modern farming methods. In recent years, concern over the loss of these prime and important farmland soils due to expanding development has led to the formation of many different farm protection initiatives including the Connecticut Department of Agriculture's Farmland Preservation Program. The identification of these farmland soils (See Prime/Important Farmland Soils Map) is important to these initiatives because it illustrates where the most sustainable farmlands are located.

4. Open Space Inventory

The natural resource environment of Naugatuck has been and is continually exposed to a variety of development pressures. Over the years, specific areas of the Borough have been



LEGEND

- Steep Slope Soil Units (15% slope or greater)
- Prime & State-wide Important Farmland Soil Units

Note:
Only soils units with a minimum slope of 15% have been depicted on this map. Other soil units which have a minimum slope of less than 15% and a maximum slope of greater than 15% may exist.

Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

US Department of Agriculture
Natural Resource Conservation Service
Detailed Soil Survey, 1990

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Steep Slope & Prime/ Important Farmland Soils

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Hamden, Connecticut March 2001

preserved as open space through a variety of approaches. Some forms of preservation are more permanent than others and the use of such areas ranges from passive open space to active recreation. In the following section, an inventory of the Borough's open space land is provided. This inventory was compiled from a variety of sources including the Department of Environmental Protection, The Connecticut Water Company, and the Borough's Assessors Office. It is evident from the inventory that the majority of Borough owned open space is in the form of active recreation facilities. The Naugatuck Parks and Recreation Department verified these facilities and the associated acreage, and their geographic distribution is illustrated in the Open Space Inventory Map.

Current Inventory
Table 1
Public/Private Owned Open Space

Town Owned/Leased	Acres	Use
Baummers Pond	7.80	Recreation
Breen Field	11.30	Recreation
Brittany Woods	4.0	Recreation
Cedar Park	0.43	Recreation
City Hill Middle School	14.19	Recreation
Cotton Hollow Field	3.60	Recreation
Cross Street Elementary	6.40	Recreation
Fairchild Park	36.50	Recreation
Town Green	1.00	Open Space
Hop Brook Golf Course	58.70	Recreation
Hop Brook School Park/Pool	5.38	Recreation
Legion Field & Park	1.75	Recreation
Linden Park	5.20	Recreation
Maple Hill Elementary	31.40	Recreation
Naugatuck High School	49.80	Recreation
Prospect Street Elementary	1.10	Recreation
Salem Elementary	1.20	Recreation
Western Elementary	4.40	Recreation
Tuttle House	8.12	Open Space
Meadow Street Monument	0.55	Open Space
Peter Foley Field (Privately Owned)	1.89	Recreation
Lewis Park	8.65	Open Space
Intersection Webb/Jones Road	1.46	Open Space
Cliff Street	1.85	Open Space
Gunntown Road	36.4	Open Space
Former CT Water Company Land	105	Open Space
Union City Little League	6	Recreation
Subtotal	414*	

*Includes school buildings

Land Trust	Acres	Use
Former Eastern Company Land	35	Open Space
Subtotal	**35**	

State Owned	Acres	Use
Hop Brook State Park & Lake	14.7	Recreation

Goodyear Park	0.25	Open Space
Whittemore Glen	84.95	Open Space
State Bridle Trail	15.75	Recreation
Naugatuck River Water Access	22.33	Open Space
Naugatuck State Forest	880.49	Open Space
Subtotal	**1018.5**	
TOTAL	**1467.5**	

Table 2
Open Space – Not Permanently Protected

Utility Owned	**Acres**	**Use**
Connecticut Water Company	495	Open Space
Subtotal	**495**	

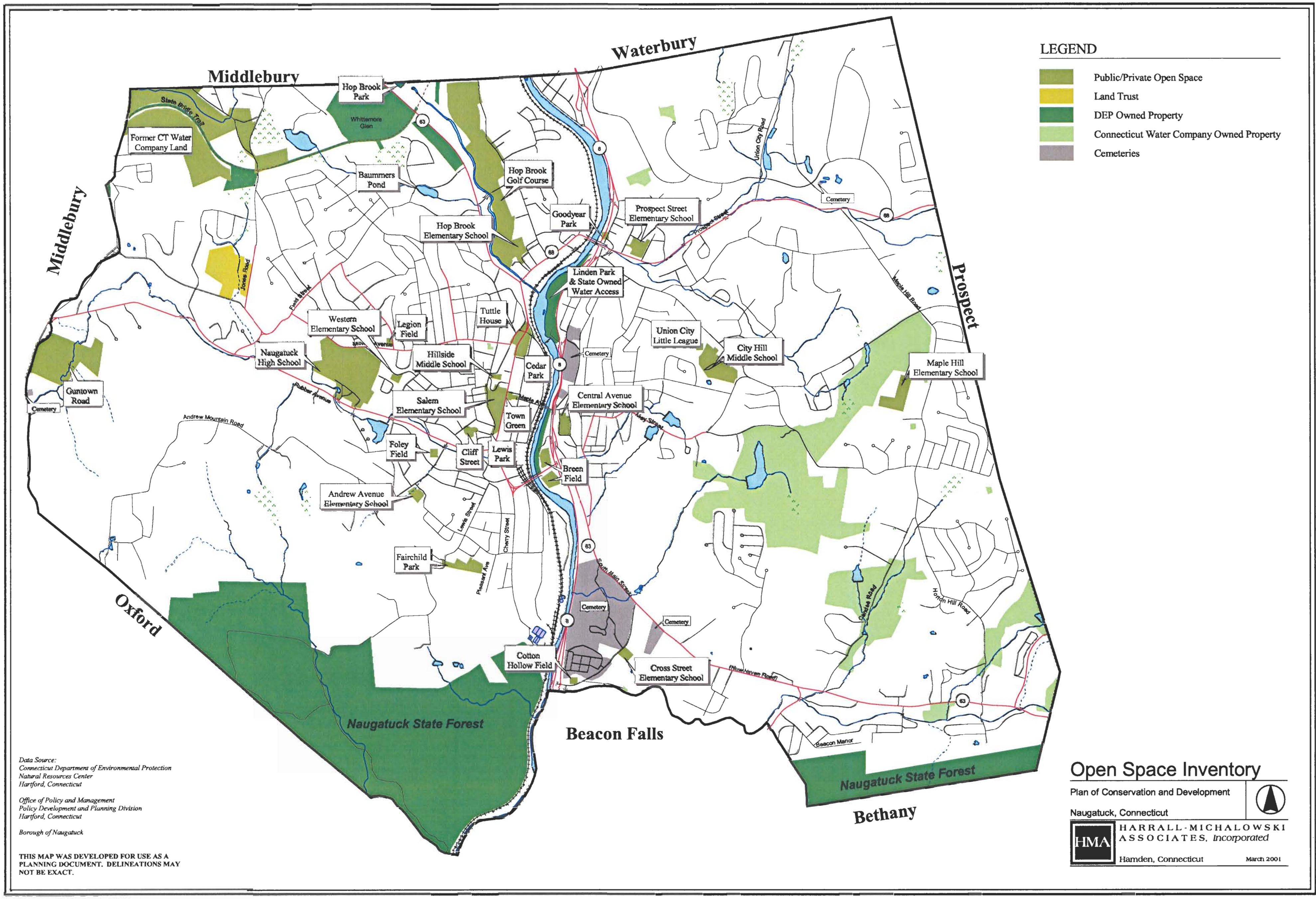
PA 490	**Acres**
Open Space	37
Farm Land	552
Forest Land**	476
Subtotal	**1065**
TOTAL	**1560**

**Does not include Water Company owned land

Tables 1 and 2 illustrate that much of the open space in Naugatuck is not permanently protected and is vulnerable to development pressures. Of the 3027.5 acres of open space listed above, 1560 acres are not permanently protected and may at some point become subject to development. For example, Public Act 490 is a significant tool for open space conservation. P.A. 490 provides assessment of farm, forest and open space on the basis of the lands *current use*, not its fair market value. This assessment lowers the tax burden on the landowners who keep their land in an undeveloped state, provided their land meets the criteria set aside in the Act. While this Act provides tax incentive to keep land undeveloped, it does not protect land in perpetuity. Owners can withdraw from the P.A.490 program at any time and pay a tax penalty if the land was not held in the program for at least 10 years. The land can then be sold at the owner's discretion.

Table 2 lists approximately 495 acres owned by The Connecticut Water Company. While the likelihood of this land becoming developed is low, the potential still exists. In recent years, water companies have been selling off portions of their land assets, however most of these sales have resulted in the land remaining as open space. In Naugatuck for example, The Connecticut Water Company has sold a portion of their land holdings in northwest portion of the Borough. This area has been identified by both state and regional plans of conservation and development as an important conservation area. As a result, this land has been recently purchased by the Borough and added to the permanent open space inventory.

Water company lands across the Borough surround and protect existing public water supply sources. The protection these land provide to drinking water supplies through buffering out potentially contaminating land uses makes them an extremely valuable


LEGEND
Public/Private Open Space
Land Trust
DEP Owned Property
Connecticut Water Company Owned Property
Cemeteries
Waterbury
Middlebury
Middlebury
Prospect
Oxford
Beacon Falls
Bethany
Hop Brook Park
Former CT Water Company Land
Baummers Pond
Hop Brook Golf Course
Goodyear Park
Prospect Street Elementary School
Hop Brook Elementary School
Linden Park & State Owned Water Access
Tuttle House
Legion Field
Western Elementary School
Union City Little League
City Hill Middle School
Maple Hill Elementary School
Naugatuck High School
Hillside Middle School
Cedar Park
Cemetery
Guntown Road
Salem Elementary School
Central Avenue Elementary School
Town Green
Foley Field
Cliff Street
Lewis Park
Breen Field
Andrew Avenue Elementary School
Fairchild Park
Cotton Hollow Field
Cross Street Elementary School
Naugatuck State Forest
Naugatuck State Forest
State Bridle Trail
Whittemore Glen
Jones Road
Field Street
Rubber Avenue
Andrew Mountain Road
Union City Road
Prospect Street
Maple Hill Road
Maple Ave
May Street
Lewis Street
Cherry Street
Pleasant Ave
South Main Street
New Haven Road
Horton Hill Road
Beacon Manor
Open Space Inventory
Plan of Conservation and Development
Naugatuck, Connecticut
HMA
HARRALL-MICHALOWSKI ASSOCIATES, Incorporated
Hamden, Connecticut
March 2001
Data Source:
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut
Office of Policy and Management
Policy Development and Planning Division
Hartford, Connecticut
Borough of Naugatuck
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resource and every effort should be made to keep them in an undeveloped state. While it is not anticipated that these lands would come available for purchase during the life of this plan, some degree of development potential, although rather small, still exists. In order to ensure the future protection of these lands, all water company owned land should receive high priority in open space protection should these land come available for purchase.

As stated earlier, of the 3027.5 acres of open space within the Borough, the amount of open space under public/private ownership is approximately 1468 acres. This represents approximately 14% of the Borough's total land area. Connecticut Public Act 97-227 established "the goal of the State to have not less then ten percent of the State's land held by the State as open space." More recently, Governor Rowland has increased that goal to 20%. Many towns across Connecticut are using these goals as standards for open space planning in their communities. In applying these standards to Naugatuck, an additional 6% of land area or approximately 635 acres would need to be protected to meet the 20% goal. Given the limited amount of land under some form of permanent open space conservation, the amount of land worthy of protection and the limited resources available for acquisition, it is necessary to establish priorities for open space preservation and to establish a variety of approaches to preservation. The priorities should identify the most important areas or categories of open space and must attempt to achieve the highest level of benefit. (This strategy is outlined in the Open Space Plan).

B. Economic and Demographic Trends

1. Economic Background and Trends

- **Introduction**

As background to updating the Naugatuck Plan of Conservation and Development, it is instructive to look at the changes that have been occurring in the State of Connecticut and the Central Naugatuck Valley Region in the subject areas of the economy and demographics. Consideration of Naugatuck's role in the state and regional economy, demography, and geography will help frame the trends occurring locally and provide a perspective which can help identify issues to be addressed in planning.

- **State Economic Trends**

The State of Connecticut economy is in a growth stage after suffering a recession in the early 1990's. Employment peaked in 1988 at about 1,667,320 jobs and then there was a continued slide downhill through 1993, when employment was about 1,531,070, a loss over the period of about 136,250 jobs in the state. Since 1993, the economy has been in recovery and expanding employment. Still as of 1998 total employment was still below peak levels of 1999 by about 16,750 jobs.

Within the overall employment picture there are changes occurring in the nature of the economy. Some of these are long standing and continuing changes. Manufacturing employment has been on a steady decline since the 1960s. In 1988, manufacturing jobs were about 372,230. They have declined in 1998 to about 277,020. The pace of manufacturing employment decline has slowed, but there is no trend to indicate an increase. This trend should not be considered entirely negative. While much of the decline is attributable to relocations out of the State and structural changes in the economy, a large portion is also attributable to increased productivity in this sector.

The sector of the economy that has been growing steadily, even through the recession, has been the service sector. In 1988 employment in this sector was about 405,700. By 1998 it had increased over 20% to 512,090. This sector includes hotels, personal services, business services, health services, legal and engineering services and educational services. In the several categories, business services and health services have demonstrated the greatest increase. The growth of the sector has led to major office facility expansion by HMO providers and insurers. It has also resulted in many satellite medical facilities for out patient treatment and for specialty treatments.

Transportation and communication jobs are rising and the sector is up above pre-recession levels. Finance, insurance and real estate jobs hit the bottom of the trough later than the rest of the economy, in 1996, when those jobs were down about 22,000 from 1988 levels. This sector has recovered slightly in the past few years, but is still about 17,000 jobs below peak employment levels.

Retail construction resulting in increased retail sector employment has been evident around the state. The growth at Buckland Hills in Manchester, at West Farms in Farmington and at the Brass Mill Center in Waterbury, along Bridgeport Avenue in Shelton and around Danbury Fair and Federal Road areas in Danbury all are evidence of the growth of the retail/service/entertainment sector. While, the level of retail employment is up about 21,000 jobs from its low period in 1992, the current level of retail jobs is still about 13,000 jobs below the employment level of 1988. This can be explained by the pattern of change and consolidation in the retail sector over this period when "big box" category killers have proliferated in the state, boosting construction and sales, but also knocking many smaller retailers out of the market.

- **Regional Economic Setting**

The Central Naugatuck Valley Planning Region includes thirteen communities encompassing 311 square miles in west central Connecticut. The regional population as of 1999 was about 265,000. Principal highways through the region are I-84 running west to Danbury and New York State and east to Hartford and Boston and Route 8 running north to Torrington and south to Bridgeport and connections with I-95 and the Merritt Parkway.

The Council of Governments of the Central Naugatuck Valley (COGCNV) adopted an Economic Development Strategic Plan for the region in 1997. The plan reported positive economic development trends in the region including increased employment, improved real estate market and new construction activity. The plan noted a regional concentration of technology-based companies, an increased level of manufacturing employment and notable growth in the wholesale trade sector. Interestingly, while area manufacturing employment is reduced from historic levels, the regional concentration of manufacturing jobs is higher than the State of Connecticut and of New Haven County.

The development strengths of the region were identified as its prime location and transportation infrastructure, its core of skilled production workers and its reputation for manufacturing excellence. Availability of labor and employment support services was also identified as a strength, as was a competitive banking environment, attention from state government and a relatively low cost position in the real estate market compared to other locations in the Northeast. The plan noted the strong existing infrastructure of industrial parks, with over 20 parks located throughout the 13 town region. The built-up industrial facilities inventory was estimated at 19.5 million square feet in the region.

Among the economic development challenges to be addressed are the redevelopment of "brownfields", the declining availability of good quality industrial facilities and the difficult topography of many available development parcels.

One of the principal development strategies adopted by COGCNV is to foster the development of the region "as an international center of a technology based precision manufacturing industry". Other strategies include employment growth through retail and construction sectors and improved efforts at regional cooperation and coordinated and focused business recruitment.

The Regional Plan of Conservation and Development for the Central Naugatuck Valley was updated and adopted in 1998. The plan incorporated the strategies for economic development noted above and included the recommendation to guide the location of economic development to the regional center and major economic areas. The regional core is shown as Oakville, Waterbury and Naugatuck and the major economic areas include the Route 10/I-691 vicinity of Cheshire and the Route 188 Oxford Airport vicinity of Middlebury and Oxford.

- **Naugatuck's Economy**

As a center of economic activity in the Central Naugatuck Valley Region, Naugatuck has a diverse commercial and industrial base. The Naugatuck labor force comprises about 11% of the work force in the Greater Waterbury Labor Market Area and local jobs represent about 8.4% of the region's employment opportunities. The principal industries in Naugatuck are the manufacturing of

chemicals, plastics, candy, surgical supplies, data processing equipment and health care products. Top five taxpayers are Hershey Foods, Uniroyal Chemical, Connecticut Light & Power Co., General DataComm and Mountview Plaza.
The Borough's Economic Development Commission has built an industrial park adjacent in part to Route 8 near the Waterbury town line and also close to Route 68 and the Prospect town line. There are over 45 companies now located in this park, which includes two sections. Uses include metals industries, contractors, marketing and advertising, printing, screw machine shops, industrial supply, snack food distributors and packaging and container manufacturing.

Building sizes range from about 3,000 to 53,000 square feet, with most facilities probably clustering between 15,000 to 35,000 square feet. The park has become home to a host of small and mid sized firms which grew up in Naugatuck or moved here from more congested locations such as Stamford, Bridgeport and Waterbury.

Despite the evident success of this park, there remain 10 sites available which total about 50 acres. The available sites are as small as 3 acres and some could be combined to provide a site of up to 24 acres. These sites are all sloping to steep in their terrain.

Naugatuck's retail sector has also been expanding. There are retail shopping areas in Downtown Naugatuck, along Rubber Avenue, along Route 63, New Haven Road, south of the center of town, and a new shopping center has recently been opened along Route 68. Major new retailers in Town include Wal-Mart, Rite Aid, Big Y and Blockbuster Video. The financial sector has also grown with major facilities constructed downtown by the local banks.

Considering the number of local jobs and the fact that about 16,250 of the local work force is employed, at least about 50% of local residents work out of town. This reflects the inter-connected nature of municipal economies within the State of Connecticut. The state's relatively small size and the separate incorporation of 169 municipalities mean that in most towns and cities there are large numbers of residents who depend on a job in another community for employment and there are numerous local companies who depend on commuters from other towns to staff their business.

- **Labor Force/Business Profile**

The labor force in Naugatuck has been relatively unchanged from 1990 to 1997 with an increase of .57% in the number of workers from 17,029 to 17,127. The unemployment rate has also remained nearly the same in 1990 as it was in 1997 changing only .5% from 5.2% in 1990 to 5.7% in 1997. (See Table 3 - Labor Force). This change in the Naugatuck labor force is similar to the changes in the neighboring towns of Bethany and Beacon Falls. In the region, the change in labor force has been more dramatic than in Naugatuck. New Haven County has

experienced a 4.6% decline in its labor force, while the state's labor force has decreased 4.71%. With the exception of Litchfield County and Prospect, there were decreases in all the area communities and region.

Table 3
Labor Force
Naugatuck Area Communities, Adjoining Counties and Connecticut

	1990				*1997*					
	Labor Force	*Employed*	*Unemployed*	*Unemployment Rate 1990*	*Labor Force*	*Employed*	*Unemployed*	*Unemployment Rate 1997*	*% Change Labor Force '90 - '97*	*Unemployment Rate Change '90 - '97*
NAUGATUCK	17,029	16,137	888	5.2%	17,127	16,159	968	5.7%	0.57%	0.5%
Beacon Falls	2,994	2,844	150	5.0%	2,856	2,697	159	5.6%	-4.83%	0.6%
Bethany	2,712	2,633	79	2.9%	2,703	2,616	87	3.2%	-0.33%	0.3%
Middlebury	3,378	3,287	91	2.7%	3,388	3,256	132	3.9%	0.30%	1.2%
Oxford	4,925	4,705	220	4.5%	4,815	4,587	228	4.7%	-2.28%	0.2%
Prospect	4,426	4,218	201	4.5%	4,669	4,465	204	4.4%	5.20%	-0.1%
Waterbury	55,741	51,384	4,329	7.8%	54,641	50,756	3,885	7.1%	-2.01%	-0.7%
New Haven County	433,106	407,425	25,079	5.8%	414,075	391,311	22,764	5.5%	-4.60%	-0.3%
Hartford County	466,181	441,123	24,187	5.2%	421,856	398,219	23,637	5.6%	-10.51%	0.4%
Litchfield County	98,446	93,697	4,610	4.7%	99,974	95,692	4,282	4.3%	1.53%	-0.4%
Connecticut	1,804,457	1,692,874	95,819	5.4%	1,723,300	1,635,400	87,900	5.1%	-4.71%	-0.3%

Source: *CT Town Profiles*, CT Department of Economic and Community Development (1998); 1990 U.S. Census, CT Department of Labor (1999); Compiled by LMA, Inc.

More recently, as of April 1999, Naugatuck's unemployment rate was 3.8%, representing 640 unemployed persons in a 16,633-person labor force. This trend of a decreasing labor force and unemployment rate from 1997 to 1999 is also present in the communities surrounding Naugatuck.

Employment in Naugatuck businesses has experienced rapid growth from 1992 to 1997 with a growth rate of 23.4%. (See Table 4-Employment). This growth far outpaced New Haven County, which saw a decline in jobs of 5.1% and the state which only slightly increased by 1.4%. The adjoining communities experienced a mix of growth and decline in employment, with the next fastest growing town being Oxford at 17.9%. This growth may be attributed to the success of the Naugatuck Industrial Park among other factors.

In 1997, 34.3 percent of the employees in Naugatuck firms were in the manufacturing sector. (See Table 5-Naugatuck Business Profile (1997)). This is the largest employment sector in the town. It should be noted that the percentage of manufacturing employment for the entire state is only 17% or one half of the level in Naugatuck. The next two largest sectors include services at 23.4% and trade (retail and wholesale sales) at 22.1%. The State level of services

employment is 35%. This reflects the lack of office and medical service employment in Naugatuck.

Table 4

Employment

	Total Employment in Area 1997	*Manufacturing 1997*	*92 - '97 Growth Rate*
NAUGATUCK	9,010	3,010	23.4%
Beacon Falls	790	270	-1.3%
Bethany	990	220	-8.3%
Middlebury	3,380	1,630	4.0%
Oxford	1,580	310	17.9%
Prospect	2,180	340	13.0%
Waterbury	44,080	6,900	-0.3%
New Haven County	354,930	60,020	-5.1%
Hartford County	489,360	66,350	4.3%
Litchfield County	63,800	17,490	8.0%
Connecticut	1,581,700	265,850	1.4%

Source: CT Town Profiles, CT Department of Economic and Community Development (1998); Compiled by HMA, Inc.

Table 5

Naugatuck Business Profile (1997)

Sector	*Firms*	*% of Total*	*Employees*	*% of Total*
Agriculture	13	1.4	69	0.8
Construction and Mining	186	20.3	623	7.1
Manufacturing	70	7.6	2,990	34.3
Transportation and Utilities	24	2.6	440	5.0
Trade	226	24.6	1,929	22.1
Finance, Insurance and Real Estate	57	6.2	394	4.5
Services	335	36.5	2,044	23.4
Government	7	0.8	229	2.6
Total	**918**	**100.0**	**8,718**	**100.0**

Source: *CT Town Profiles*, CT Department of Economic and Community Development (1998); Compiled by HMA, Inc.

Implications of Economic Trends

Naugatuck has been identified as a regional economic center in the Regional Plan for the Central Naugatuck Valley. As discussed above, the focus on manufacturing employment has continued in Naugatuck at levels which exceed state levels. The future planning of the Borough should continue to support this focus while providing some opportunities for diversification. Naugatuck is a community with economic vitality in industrial sectors serving the world economy as well as retail and service sectors satisfying needs of the local population. The economy tends to have a stronger emphasis on the industrial sector than the state and region generally, stemming from its heritage of industry and its economic development effort to diversify that heritage. Evidence of Naugatuck's position as an economic center in the region is the fact that its waste treatment facility provides treatment for surrounding less developed communities.

The retail and service sector is appropriate to its size. Like many older communities, the strength of the retail sector has moved away from the downtown to outlying commercial strips. Nevertheless, the downtown has not been abandoned. Most older stores remain occupied and, as noted, there has been some new construction in the financial and retail sectors. Additional redevelopment proposals are pending.

One area of the state and regional economy that was noted to be expanding was the health services field and health care administration. In this sector, Naugatuck has not developed a local medical center. There is a community of health service providers, typically individual practitioners or small partnerships. Hospital care or specialty treatment facilities are located in Waterbury, Derby, New Haven, Bridgeport or more distant medical centers. As hospitals and specialists continue to create satellite facilities and affiliations, there should be an opportunity to build up this sector of the local economy. The location of such services in the downtown area might meet both a growing demand and support revitalization of the area.

2. Demographic Background and Trends

- **Introduction**

Understanding current demographic characteristics and past trends is crucial to the process of constructing a Plan of Conservation and Development. This type of information is the foundation by which future developments within a municipality can be anticipated and planned for. Provided in this section are key demographic characteristics and trends for the Borough of Naugatuck and it's surrounding region.

- **Population Characteristics**

Naugatuck has experienced steady population growth from 1950 to 1990. [See Table 6- Population 1950 - 1990.] The greatest increase in population occurred from 1980 to 1990 with 4,163 new residents in the town, representing a 14% increase. This population growth is similar to the growth in population in the county as a whole, while outpacing the growth in the state for the same time period.

Table 6

Population 1950-1990

Naugatuck Area Communities, Adjoining Counties and Connecticut

						Change 1950-1990		*Change 1980-1990*	
	1950	*1960*	*1970*	*1980*	*1990*	*No.*	*%*	*No.*	*%*
NAUGATUCK	17,455	19,511	23,034	26,462	30,625	13,170	43%	4,163	14%
Beacon Falls	2,067	2,886	3,546	3,989	5,083	3,016	59%	1,094	22%
Bethany	1,318	2,384	3,857	4,330	4,608	3,290	71%	278	6%
Middlebury	3,318	4,785	5,542	5,995	6,145	2,827	46%	150	2%
Oxford	2,037	3,292	4,480	6,634	8,685	6,648	77%	2,051	24%
Prospect	1,896	4,367	6,543	6,815	7,775	5,879	76%	960	12%
Waterbury	104,477	107,130	108,033	103,266	108,961	4,484	4%	5,695	5%
New Haven County	545,784	660,315	744,948	701,337	804,219	258,435	32%	102,882	13%
Hartford County	539,661	653,589	792,814	807,769	851,783	312,122	37%	44,014	5%
Litchfield County	98,872	119,856	144,091	156,768	174,092	75,220	43%	17,324	10%
Connecticut	2,007,280	2,535,234	3,031,705	3,107,580	3,287,116	1,279,836	39%	179,536	5%

Sources: 1990 - *Connecticut Town Profiles*, CT Department of Economic and Community Development, (1998); 1970, 1980 - *Connecticut Market Data* 1983, CT Department of Economic and Community Development; 1950, 1960 - U.S. Census, Compiled by FDMA, Inc.

Compared to the surrounding communities, Naugatuck's rate of population growth falls in the middle of the range, having gained population at a greater rate than Waterbury and Middlebury, while not growing as fast as Oxford or Beacon Falls.

It is projected that the population of Naugatuck will continue to grow into the future, but at a slower pace than it has in the past few decades. Population projections completed by the Connecticut Office of Policy and Management in 1995[1] indicate Naugatuck's population growth will slow through 2020. [See Table 7 - Population Changes 1850 - 2020 and Figure 1 - Population Change 1850 - 2020.]

Although slowing, the population growth in Naugatuck has been projected to outpace both the county and the state. (See Table 8 - Population Projections.) In fact, the town will also grow faster than all area communities in terms of real

[1] *Connecticut Population Projections - Series 95.1*. Connecticut Office of Policy and Management (Sept. 1995).

numbers and in percentages with the exception of Beacon Falls and Oxford percentage increases.

Table 7	
Population Change 1850-2020	
Naugatuck, Connecticut	
Year	*Population*
1850	1,720
1900	10,541
1950	17,455
1960	19,511
1970	23,034
1980	26,462
1990	30,625
2000	34,700
2005	36,100
2010	36,900
2015	37,700
2020	38,500
Source: Connecticut Population Projections - Series 95.1. CT Office of Policy and Management (Sept. 1995)	

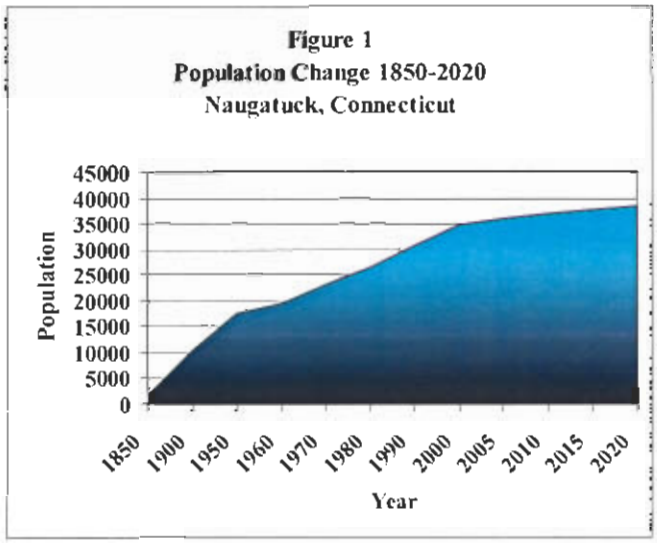


Table 8								
Population Projections								
Naugatuck Area Communities, Adjoining Counties and Connecticut								
							Estimated Change 1990-2020	
	1990	*2000*	*2005*	*2010*	*2015*	*2020*	*Number*	*Percentage*
NAUGATUCK	30,625	34,700	36,100	36,900	37,700	38,500	7,875	20.45%
Beacon Falls	5,083	5,900	6,200	6,400	6,600	6,800	1,717	25.25%
Bethany	4,608	4,690	4,730	4,810	4,940	5,090	482	9.47%
Middlebury	6,145	6,500	6,500	6,500	6,558	6,600	455	6.89%
Oxford	8,685	10,300	11,000	11,400	11,800	12,200	3,515	28.81%
Prospect	7,775	8,400	8,600	8,700	8,800	8,900	1,125	12.64%
Waterbury	108,961	109,700	107,200	106,500	106,500	106,500	(2,461)	-2.31%
New Haven County	804,219	816,880	825,950	838,340	852,840	868,690	64,471	7.42%
Hartford County	851,783	844,980	852,810	868,360	885,009	903,280	51,497	5.70%
Litchfield County	174,092	182,740	187,310	192,290	197,730	203,280	29,188	14.36%
Connecticut	3,287,116	3,316,120	3,364,080	3,435,400	3,512,240	3,593,860	306,744	8.54%
Sources: 1990 - U.S. Census; 2000-2020 - State of Connecticut, Office of Policy and Management (Sept. 1995); Compiled by HMA, Inc.								

However, these projections may prove to be misleading. The most recent projections completed were done in 1995 and show Naugatuck as having a population of 34,700 in 2000. (See Table 8.) The population estimates that have been completed from the 1990 census through 1998 show that the population of Naugatuck may actually decline slightly. (See Table 9 - Population Estimates 1990-1997) From 1990 to 1997 the population of Naugatuck has been estimated by the Connecticut Department of Health, Office of Policy, Planning, and Evaluation to decrease by 1.32%. Considering that the 1997 population estimate for Naugatuck is 30,226, it is unlikely that the 2000 population of 34,700 that was projected in 1995 will be realized.

Table 9

Population Estimates 1990 - 1997

Naugatuck Area Communities, Adjoining Counties and Connecticut

									Estimated Change 1990-1997	
	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*Number*	*%*
NAUGATUCK	30,625	30,780	30,910	31,200	30,955	31,050	31,164	30,226	(399)	-1.32%
Beacon Falls	5,083	5,000	5,240	5,260	5,265	5,351	5,368	5,135	52	1.01%
Bethany	4,608	4,650	4,690	4,720	4,772	4,845	4,878	4,730	122	2.58%
Middlebury	6,145	6,100	6,130	6,180	6,162	6,123	6,164	6,001	(144)	-2.40%
Oxford	8,685	8,720	8,940	9,070	9,166	9,253	9,378	9,019	334	3.70%
Prospect	7,775	7,830	7,910	8,010	8,055	8,084	8,131	8,111	336	4.14%
Waterbury	108,961	107,690	107,100	108,950	107,831	107,554	106,753	106,082	(2,879)	-2.71%
New Haven County	804,219	799,380	801,310	800,660	796,474	794,785	794,672	792,200	(12,019)	-1.52%
Hartford County	851,783	853,400	849,230	846,550	839,612	835,589	831,964	825,141	(26,642)	-3.23%
Litchfield County	174,092	175,170	175,130	176,390	178,524	179,316	180,339	181,082	6,990	3.86%
Connecticut	3,287,116	3,286,100	3,280,960	3,277,310	3,275,251	3,274,662	3,274,238	3,269,858	(17,258)	-0.53%

Sources: 1990 - U.S. Census; 1991 - State of Conecticut, Division of Health Surveillance and Planning; 1992-1997 - State of Connecticut, Office of Policy, Planning and Evaluation; 1998 - CT Town Profiles, CT Department of Economic Development and Communit

The estimates that are completed by the Connecticut Office of Policy, Planning and Evaluation use the 1990 census count as a basis for their estimates for the years 1991 through 1996. These estimates are calculated using the adjusted 1990 census count as a base and adding the changes in group quarters populations and the natural increase in population (births minus deaths). Lastly, estimated changes in four correlated statistical indicators, motor vehicle registrations, voter registrations, elementary school enrollment, and housing units are included.

In 1997 the method of estimating population was changed to provide more detailed estimates than were previously available. The base population data used was the July 1, 1996 U.S. Census Bureau population estimate, that estimate for Naugatuck was 30,241. From this base the changes in group quarters, natural increase in population, and net migration are added.

The census population estimates for Naugatuck from 1990 to 1998 are given in Table 10. These estimates use the 1990 census count as a base number then adjust that figure based on factors such as housing unit changes, occupancy rates, and persons per household. The figures provided by the Census Bureau show a

gradual population decline, and are consistent with the other population estimates for 1997 and 1998.

Table 10 U.S. Census Bureau Population Estimates 1990 - 1998 Naugatuck, CT	
Year 7/1/	*Population*
1990	30,639
1991	30,593
1992	30,515
1993	30,426
1994	30,317
1995	30,266
1996	30,241
1997	30,233
1998	30,231

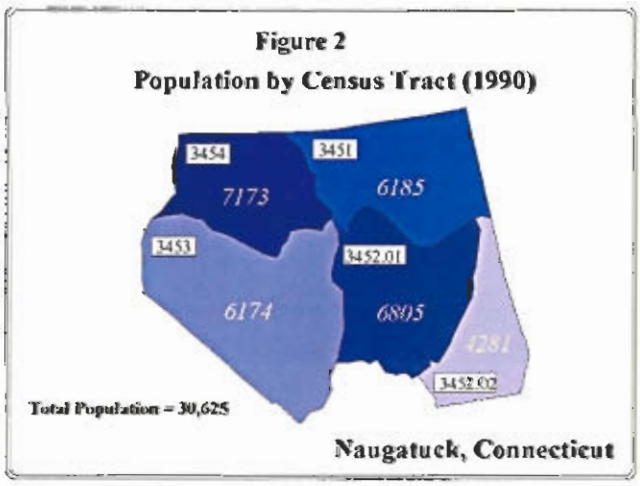
A 1998 population estimate was obtained from the *Connecticut Town Profiles*, a publication by the Connecticut Department of Economic and Community Development. The source of their estimate was Claritas, Inc., a commercial demographic information supplier. Their estimation method uses a straight trend line. This 1998 estimate is used since the Office of Policy, Planning and Evaluation has not yet released their 1998 estimates.

For the purposes of comparability we believe the most accurate of the population estimates are those completed by the Office of Policy, Planning and Evaluation since they account for important factors such as net migration and natural increase. The 2000 Census soon to be released will confirm which estimate was most accurate.

Naugatuck is similarly situated with respect to population change compared to the state and New Haven County. Also, most of the larger adjoining towns, such as Waterbury and Middlebury, also have experienced estimated population losses. Only the more rural adjoining municipalities such as Prospect and Oxford experienced growth in the 1990 to 1998 time period. Likewise, the adjoining, more rural, Litchfield County experienced population growth while New Haven County saw population decline.

This trend is most likely a continuation of the movement in the past few decades of people leaving more urbanized settings for rural, suburban environments.

- **Population Distribution In The Borough**

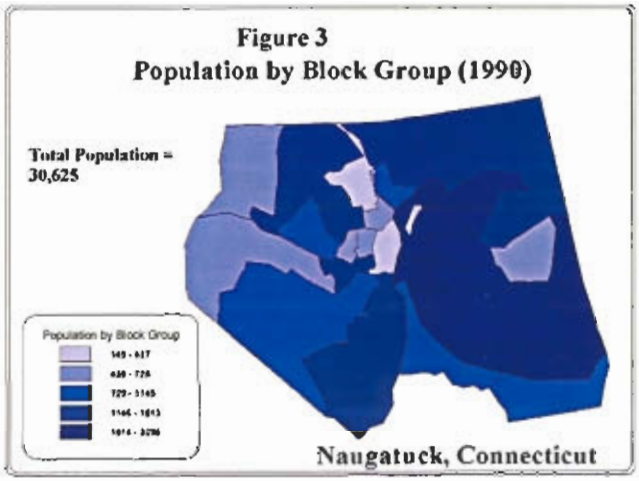


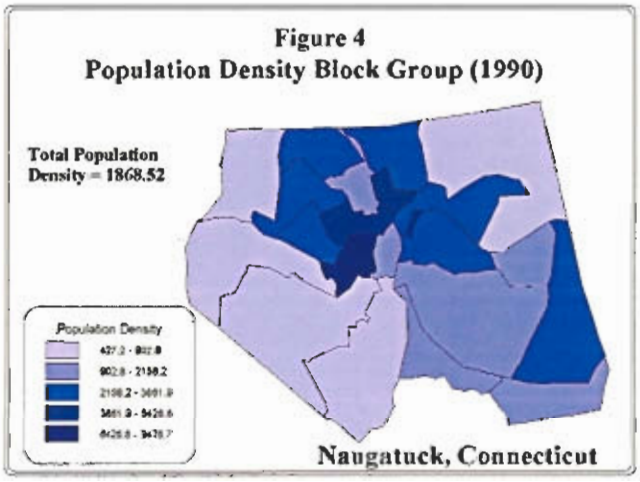
Looking more closely at the population of Naugatuck by census tract in 1990 an even pattern of population dispersion is apparent in four of the five tracts that comprise Naugatuck. The exception to this was census tract 3452.02. [See Figure 2 - Population by Census Tract (1990).]

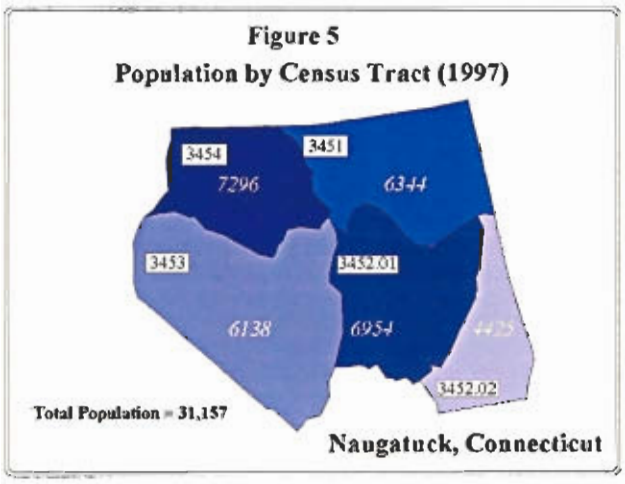
Also, at an even more detailed level, the population by block group, a more varied pattern of population settlement develops. [See Figure 3 - Population by Block Group (1990).] This population dispersion can be further explained by looking at the

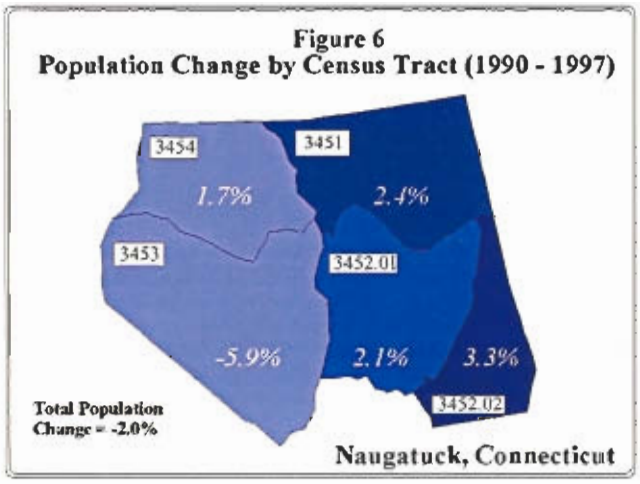
population density for Naugatuck. See Figure 4 - Population Density by Block Group (1990).]

In 1997, the population distribution in the town was relatively the same as 1990. [See Figure 5 - Population by Census Tract (1997).] However, there have been some notable changes that have taken place between the period from 1990 to 1997. Census tract 3453 was the only tract to lose population over this time period. Also, the largest increase in population took place in census tract 3452.02, showing over a 3% increase. [See Figure 6 - Population Change by Census Tract (1990-1997).] This tract represents over 14% of Naugatuck's population and is likely to continue to grow faster than, and possibly at the expense of, the other areas of Borough.





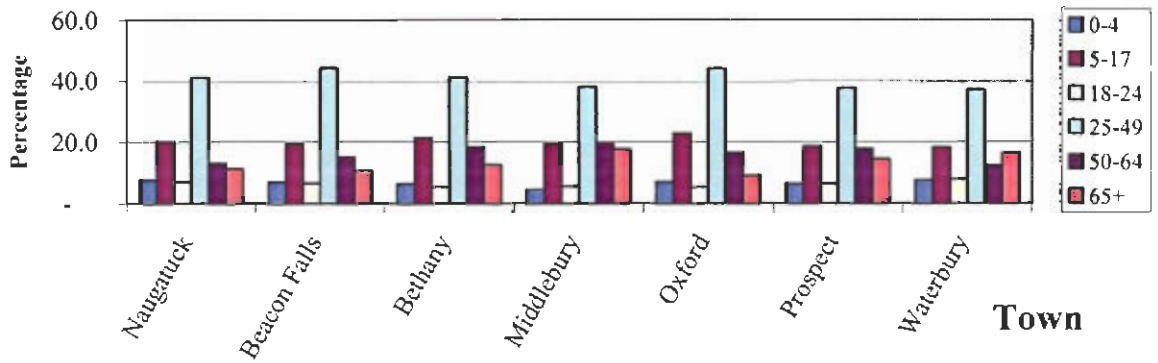




- **Age Composition**

Comparing Naugatuck's age composition to the other area communities provides an indication of the likely area of future growth in the town's population. Likewise, examining the Borough's change in age composition over time can point to future changes in demand on the Borough's resources and present land use issues.

Figure 7
Percent of Population by Age (1999 estimate)

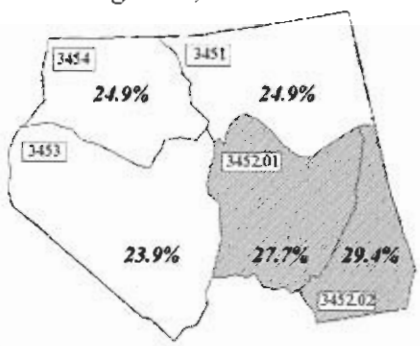


The 1999 estimates for population by age cohort show Naugatuck to have a greater proportion of young children than surrounding towns. [Figure 7 - Percent of Population by Age (1999).] Compared with the other area communities, Naugatuck falls within the middle of the range of proportion of population within a particular age cohort for all of the other age cohorts. However, when looking at the 1999 estimates, Naugatuck is one of the highest with the proportion of its population in the 5-19 age cohort. This occurred as the large 0-4 year age cohort in 1990 aged into the 5-19 year old category by 1999.

Also, Naugatuck had the second highest percentage of it's population in the 20-24 year old cohort in 1990, an age range that had dropped off considerably as a percentage of Naugatuck's population by 1999. In 1999 the 25-49 cohort was the second highest compared to other area communities; this was not the case in 1990. We again see the effect as a large age group becomes older shifting the age cohort where the highest proportion of the population falls. The age composition also shows that when there are proportionally larger age cohorts in the childbearing years there will be a corresponding boom in the size of the age cohort of young children. As the people in the proportionately large 0-4 and 25-49 year age cohorts become older it will present stresses on the town at levels that are not currently present on the school system and elderly services for example. The gradual aging of the population that is taking place is also apparent when the

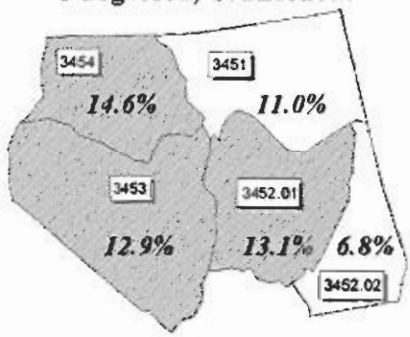
change in the median age in Naugatuck is examined. In 1990 the median age in Naugatuck was 32.0 years old. That number increased to 34.8 years old by 1997.

Figure 8
Population Under 18 Years Old (1990)
Naugatuck, Connecticut



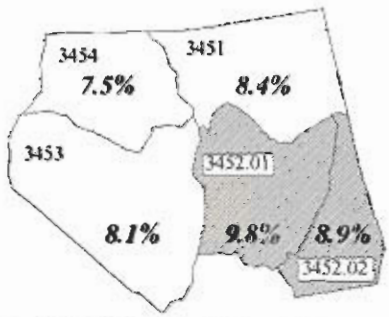
Naugatuck Population Under 18 Years Old = 26.1%

Figure 9
Population 65 and Over (1990)
Naugatuck, Connecticut



Naugatuck 65 Years Old and Over = 12.1%

Figure 10
Pre-School Aged Children (1990)
Naugatuck, Connecticut



Naugatuck Total Pre-School Aged Population = 8.5%

In terms of future needs for community services, two age groups are important to identify – under 18 and over 65. Census tract data for Naugatuck shows that the highest concentrations of persons under 18 years of age occur in tracts 3452.01 and 3452.02. [See Figure 8 - Population Under 18 Years Old.] This coincides with areas of the town that are undergoing new development. In fact, tract 3452.02, which has 29.4% of it's population under 18 years old, also is the fastest growing section of town experiencing a 3.3% population growth from 1990 to 1998. This lends itself to the conclusion that new families to the Borough and those Town residents starting families are choosing this area to settle in. This has implications for the need for facilities such as schools and recreation.

The highest concentration of elderly persons occurs in census tracts 3453, 3454, and 3452.01. [See Figure 9 - Population 65 and Over.] These tracts comprise the center of town, which has a number of older residences and long time Naugatuck residents. Of interest is tract 3452.01 that is above average in both the percentages of persons under 18 and those 65 and over. This likely occurs since the tract comprises part of the traditional town core as well as areas that are being developed. This area also contains age restricted housing.

Numbers of pre-school aged children are a indicator of future demands that may occur on the school system. In 1990 the area with the highest concentration were census tracts 3452.01 and 3452.02. [See Figure 10 - Pre-School Aged Children (1990).] However, there was not a wide range between the highest and lowest values, the pre-school aged children were fairly evenly dispersed.

Table 11 Trends in Households and Household Sizes Naugatuck Area Communities, Adjoining Counties and Connecticut									
	1980 Population	*1980 Households*	*Average Household Size 1980*	*1990 Population*	*1990 Households*	*Average Household Size 1990*	*1998 Population*	*1998 Households*	*Average Household Size 1998*
Naugatuck	26,462	9,347	2.80	30,625	11,330	2.69	30,195	11,191	2.68
Beacon Falls	3,989	1,339	2.98	5,083	1,889	2.69	5,165	1,924	2.68
Bethany	4,330	1,393	3.11	4,608	1,552	2.97	4,795	1,618	2.96
Middlebury	5,995	2,024	2.94	6,145	2,227	2.73	5,996	2,251	2.64
Oxford	6,634	2,084	3.18	8,685	2,814	3.09	9,151	2,970	3.08
Prospect	6,815	2,039	3.24	7,775	2,556	2.97	8,215	2,707	2.97
Waterbury	103,266	38,035	2.67	108,961	43,164	2.48	105,357	42,000	2.46
New Haven County	701,337	271,452	2.72	804,219	304,730	2.55	790,961	299,905	2.55
Hartford County	807,769	289,658	2.72	851,783	324,691	2.55	824,956	315,031	2.55
Litchfield County	156,768	55,667	2.76	174,092	66,371	2.59	181,874	69,599	2.58
Connecticut	3,107,580	1,093,678	2.76	3,287,116	1,230,479	2.59	3,271,239	1,229,807	2.59

Source: 1980 Census; 1990 Census, *CT Town Profiles*, CT Department of Economic and Community Development (1998); Claritas, Inc.; Compiled by TMA, Inc.

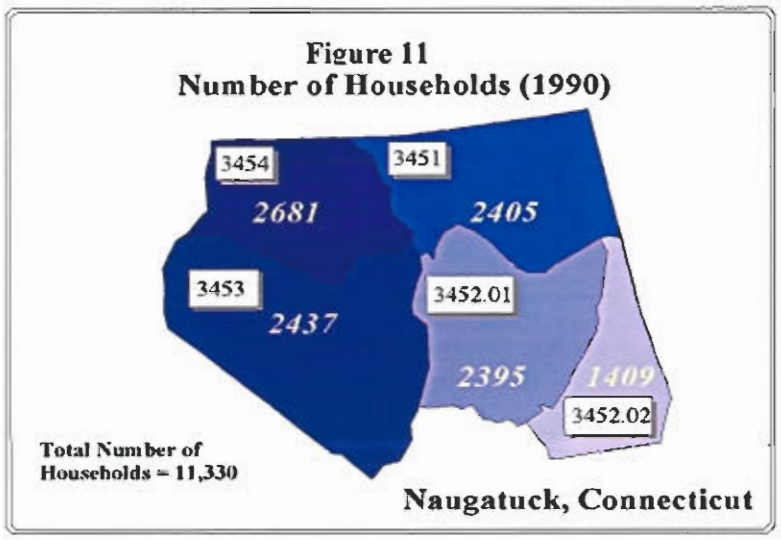
- **Households**

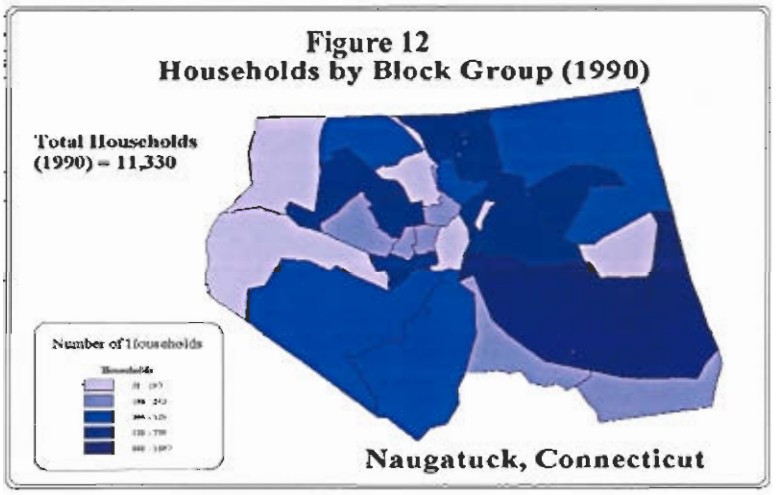
The number of households in Naugatuck in 1990 was 11,330, while a 1998 estimate shows the number of households decreasing to 11,191. [See Table 11 - Trends in Households and Household Size.] The 1998 estimate of households, 11,191, was obtained from Claritas, Inc., a commercial demographics provider. This is the only source for this type of information that could be obtained and the method of estimation they use may not provide an accurate assessment of the current number of households. The distribution of households throughout the Town can be seen in more detail in Figure 11 which shows the number of households in 1990 by census tract, and in Figure 12 which shows households by census block group.

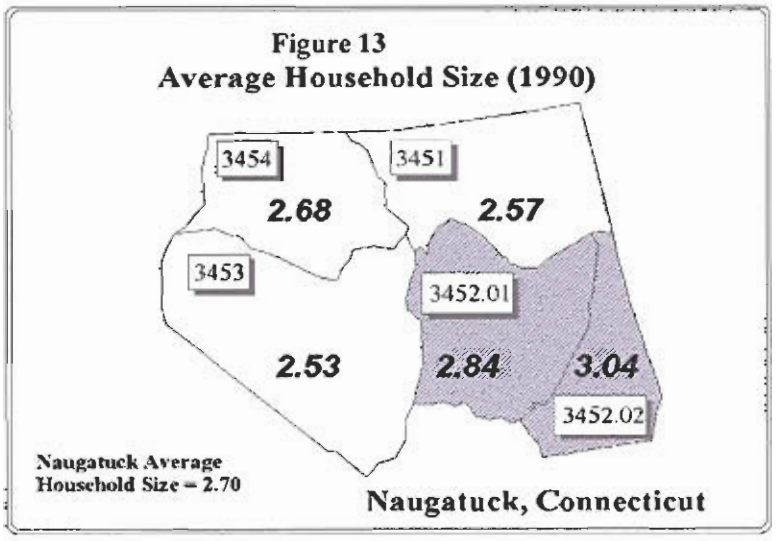
The average household size in Naugatuck was 2.69 in 1990. This represents a 4.1% decrease from 1980. However, from 1990 to 1998 the average household size has remained nearly constant decreasing only by .01 to 2.68. This trend mirrors what has occurred throughout the State for the same time period. While average household size generally decreased in the 1980's, in the 1990's there was little change or a small decrease. The decline in the size of households can be attributed to lower birth rates, high divorce rates, later marriages and an increase in one and two person households. This is particularly true with respect to urbanized areas.

In Naugatuck the average household size is above that of New Haven County, 2.64, and Connecticut, 2.66, for 1998. However, Naugatuck has a lower average household size than the majority of the surrounding communities with the exception of Middlebury, Beacon Falls and Waterbury. Most of the State has experienced a decrease in household size, the proportion of households increasing at a faster rate than the population. In the case of Naugatuck, the relative lack of change in the average household size in the 1990's occurred because there was a

decrease in the number of households by 2.01% and a nearly equal 1.42% decrease in the population, leaving the number of persons per household unchanged.







The areas of Naugatuck with the greatest average household size were census tracts 3452.01 and 3452.02, with 2.84 and 3.04 persons per household, respectively. [See Figure 13 - Average Household Size (1990)]. These areas of larger households coincide with the areas of Town that have the larger proportions of children from ages 0-18. Greater numbers of young children lead to larger household sizes in most cases. These areas have also experienced construction of larger single family homes in recent years.

- **Income**

The income of the residents of an area can be gauged by a number of measures. Three of these measures include median household income, median family income, and per capita income. The median household income in Naugatuck in 1998 was estimated to be $49,912. This represents an increase of 24.7% from 1989. The median household income in both 1989 and 1998 was above the median for the County, but below that of the State. Also, the percentage change in Naugatuck in median income was similar to that of the area communities. The median household income in Naugatuck is projected to increase by another 9% by 2003 to $54,412. [See Table 12 - Trends in Median Household Income.]

Median family income has exhibited the same type of growth pattern in Naugatuck as median household income. In 1989 the median family

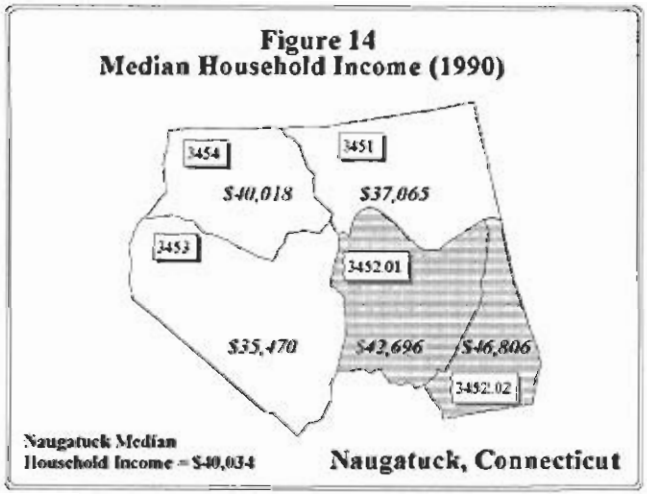
Table 12 Trends in Median Household Income Naugatuck Area Communities, Adjoining Counties and Connecticut					
	Median Household				
	1989	*1998(e)*	*% Change 1989-1998*	*2003(p)*	*% Change 1998-2003*
NAUGATUCK	40,034	49,912	24.7	54,412	9
Beacon Falls	43,315	56,080	29.5	64,392	14.8
Bethany	57,604	73,200	27.1	85,033	16.2
Middlebury	49,747	60,970	22.6	64,644	6.0
Oxford	54,678	67,485	23.4	74,610	10.6
Prospect	48,491	60,094	23.9	66,291	10.3
Waterbury	30,574	35,815	17.1	37,089	3.6
New Haven County	38,537	47,063	22.1	51,088	8.6
Hartford County	40,659	48,069	18.2	51,386	6.9
Litchfield County	42,622	50,111	17.6	52,919	5.6
Connecticut	41,721	52,415	25.5	57,900	10.5
Source: Claritas, Inc. 1998					

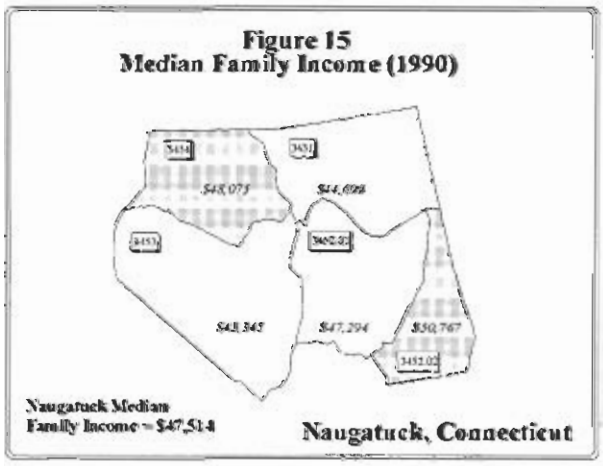
Table 13 Trends in Median Family Income Naugatuck Area Communities, Adjoining Counties and Connecticut					
	Median Family Household				
	1989	*1998(e)*	*% Change 1989-1998*	*2003(p)*	*% Change 1998-2003*
NAUGATUCK	47,514	59,978	26.2	66,279	10.5
Beacon Falls	47,408	63,801	34.6	72,106	13.0
Bethany	61,959	79,404	28.2	91,683	15.5
Middlebury	56,201	69,053	22.9	75,270	9.0
Oxford	57,241	71,284	24.5	79,181	11.1
Prospect	53,368	65,732	23.2	72,531	10.3
Waterbury	39,032	46,202	18.4	48,549	5.1
New Haven County	46,949	58,287	24.1	63,888	9.6
Hartford County	48,608	58,610	19.7	62,874	7.3
Litchfield County	49,680	58,378	17.5	62,532	7.1
Connecticut	50,128	62,948	25.6	69,662	10.7
Source: Claritas, Inc. 1998					

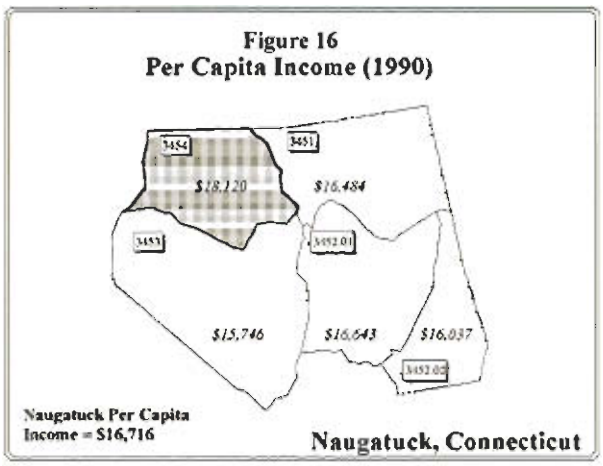
income in Naugatuck was $47,514, this figure was estimated to have increased to $59,978 by 1998. (See Table 13 - Trends in Median family Income.) The relationship of median family income in Naugatuck is similar to that of median household income with respect to other area communities and counties as well as the State as a whole. With both measures of median income Naugatuck was less than the other area communities with the exception of Waterbury.

Per capita income in Naugatuck stood at $16,716 in 1989, $22,001 in 1998, and is projected at $25,660 in 2003. [See Table 14 - Trends in per capita Income.] These figures are well below the State average, adjoining counties and the area communities with the exception of Waterbury for all three years examined.

Table 14 Trends in Per Capita Income Naugatuck Area Communities, Adjoining Counties and Connecticut					
	Per Capita				
	1989	*1998(e)*	*% Change 1989-1998*	*2003(p)*	*% Change 1998-2003*
NAUGATUCK	16,716	22,001	31.6	25,660	16.6
Beacon Falls	17,998	23,996	33.3	28,368	18.2
Bethany	23,001	30,802	33.9	36,589	18.8
Middlebury	25,262	33,724	33.5	39,009	15.7
Oxford	18,747	24,513	30.8	28,378	15.8
Prospect	17,556	23,198	32.1	27,156	17.1
Waterbury	14,234	18,388	29.2	21,267	15.7
New Haven County	17,670	23,237	31.5	27,131	16.8
Hartford County	18,956	24,032	21.1	27,422	14.1
Litchfield County	19,962	24,466	22.6	27,379	11.9
Connecticut	20,189	27,078	25.4	32,061	18.4
Source: Claritas, Inc. 1998					







- **Housing**

Connecticut Housing Trends

The Economic Report of the Governor estimated the Connecticut housing inventory in 1997 as 1,374,566 dwelling units. The predominant style was single-family detached homes, which comprised about 62.9% of all housing. Single-family units also represented about 90% of all new construction activity between 1990 and 1997.

The level of new construction in Connecticut has gone through a cycle over the past decade, from a peak building level of 15,653 units in 1989, to a low production of 7,528 units in 1991. Since 1992 there has been a generally upwards trend in new construction to a recent high of 10,918 units in 1998. Still, the most recent figure is below prior peak levels.

Regional Housing Trends

The regional housing inventory was about 108,239 at the end of 1996. The median house value reported in the 1990 Census was $155,800 and about 12% of the inventory was classified as affordable. About 44% of the regional housing is located in Waterbury. Naugatuck has the largest inventory amongst the remainder of the region.

On a regional basis, there is a lack of housing variety in parts of the Central Naugatuck Valley Region such that disparities are created in the socio-economic make-up of communities within the region. The regional plan calls for construction and rehabilitation of a diverse and adequate housing supply that includes provisions for households with special needs. About 25% of the regional housing inventory was built before 1940 and the conservation of this inventory and the neighborhoods where it is located is an important part of a diversified housing supply.

Naugatuck's Housing

The housing supply in Naugatuck has expanded steadily since 1960, when there were 6,274 dwelling units. In 1970, the total was up to 7,536. By 1980, housing

increased to 9,728 and the 1990 Census reported 11,930 housing units. About half of the housing supply is single family homes. Only about 16% of the dwellings were in apartment buildings of five or more units. Almost 70% of Naugatuck housing is owner-occupied. The Census reported a 1990 median house value of $143,100 compared to $53,386 in 1980. The median contract rent for an apartment in 1990 was $478/mo, up from $168 in 1980.

The housing distribution in Naugatuck is predominantly single family detached, but there is a substantial inventory of condos (attached single family) as well as an inventory of low-density multi-family units. Compared to other towns in the region, Naugatuck's housing inventory is the highly diversified and more affordable. Affordable housing units "means housing for which persons and families pay thirty per cent or less of their annual income, where such income is less than or equal to the area median income for the municipality in which such housing is located" according to Connecticut General Statute 8-39a "Affordable Housing". By way of example, in 1998, Naugatuck had 10.04% of their housing units categorized as affordable or assisted in accordance with Connecticut General Statute 8-30g "Affordable Housing Land Use Appeals. This percentage represents 1,247 housing units of the 12,421 housing units estimated to be in the Town. In 1999, the percentage had fallen to 9.92% or 1,238 units of the 12,485 total units.

Affordable or assisted housing units under 8-30g are comprised of those units that are governmentally assisted through any government program for construction or substantial rehabilitation of moderate or low income housing, or housing occupied by persons receiving rental assistance under Chapter 138a of the CT General Statutes (State Rental Assistance) or Title 42 U.S.C Sec. 142f (Section 8). There were 860 governmentally assisted housing units in Naugatuck in 1999. Additionally, units that are financed by CT Housing Finance Authority or Farmers Home Administration Mortgages are considered assisted. Naugatuck had 378 units in this category. Deed restricted units are also included, however Naugatuck currently had no properties with covenants or restrictions placed in the deed concerning rental or sale prices that would preserve the units as affordable.

The ramifications of this level of assisted housing, 9.92%, is that the Borough is not exempted from the Affordable Housing Appeals Program under CT General Statute Sec. 8-30g. The Affordable Housing Appeals Program allows for the appeal directly to a specialized court for all plans to build affordable housing that are denied by a municipality. Towns who have greater than 10% of their housing units classified as assisted are exempt from this direct appeal provision. However, since Naugatuck met the 10% threshold in 1998, future approval of a small number of housing units that are assisted will move the Town over the minimum percentage.

Housing construction in Naugatuck has been predominantly single family detached homes, with a peak of over 200 new units added to the inventory in 1987. Most recently new construction volume has tended to run in the range of 80-100 new homes annually. The character of new construction also appears to be running upscale from price and size categories of earlier subdivisions. As new subdivisions are pushed into remaining lands issues develop over the manner in which to balance preservation of natural features and continue to meet the housing demands in the community.

After a period of decline at about -5% to -7.5% annually during the early 90's, the local housing market began to stabilize in 1995 and most recently there has been an increasing level of sales and a rising trend in prices. Residential sales activity in Naugatuck, as reported in the Commercial Record, has run about 35 homes per month in 1997 and 1998. The median sales price in 1997 was $104,000 and it increased to $106,123 in 1998. While the current market is showing strength, prices remain below levels of 1987 and 1988 which were $115,900 and $128,000 respectively.

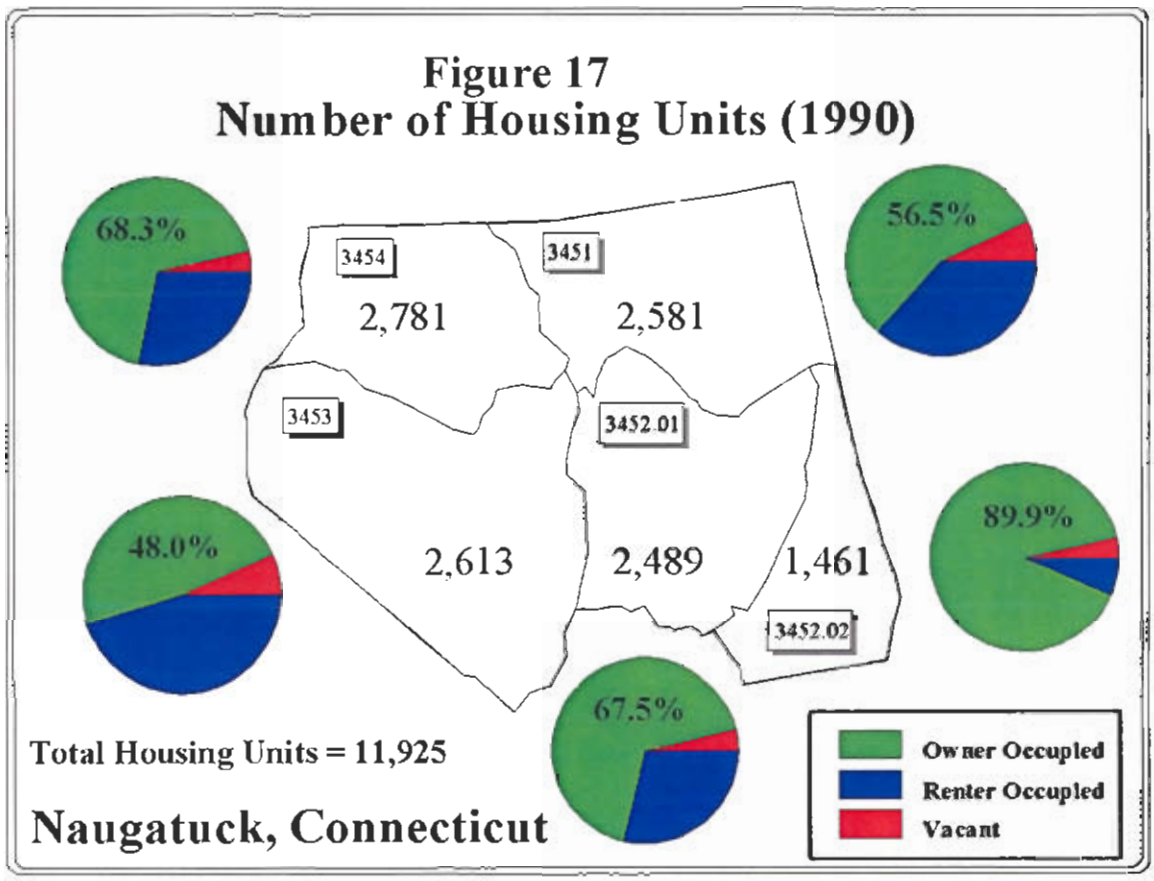
Table 15
Housing
Naugatuck Area Communities, County, and State

	Existing Units 1980 Census	*Existing Units 1990 Census*							*% Change 1980 - 1990*
		Total	*# Owner Occupied*	*% Owner Occupied*	*# Renter Occupied*	*% Renter Occupied*	*# Vacant*	*% Vacant*	
NAUGATUCK	9,731	11,930	7,606	63.8%	3,724	31.2%	600	5.0%	22.6
Beacon Falls	1,377	1,990	1,466	73.7%	423	21.3%	101	5.1%	44.5
Bethany	1,422	1,581	1,398	88.4%	154	9.7%	29	1.8%	11.2
Middlebury	2,168	2,365	1,980	83.7%	247	10.4%	138	5.8%	9.1
Oxford	2,197	2,930	2,590	88.4%	224	7.6%	116	4.0%	33.4
Prospect	2,066	2,624	2,380	90.7%	176	6.7%	68	2.6%	27.0
Waterbury	40,854	47,205	21,151	44.8%	22,005	46.6%	4,041	8.6%	15.5
New Haven County	287,184	327,079	191,497	58.5%	113,233	34.6%	22,349	6.8%	13.9
Hartford County	300,683	341,812	203,635	59.6%	121,056	35.4%	17,121	5.0%	13.7
Litchfield County	61,785	74,274	48,584	65.4%	17,787	23.9%	7,903	10.6%	20.2
Connecticut	1,158,885	1,320,850	807,481	61.1%	422,998	32.0%	90,371	6.8%	14.0

Source: U S Census 1990, *CT Town Profiles*, Department of Economic and Community Development (1998), Claritas, Inc. (1998), Compiled by HMA, Inc.

The number of housing units in Naugatuck has increased from 1980 through 1997. However, that rate of growth has been declining over that period of time. In 1980 there were 9,731 housing units in Naugatuck, that number increased 22.6% to 11,930 housing units in 1990. (See Table 15 - Housing.) However, the increase from 1990 to 1997 was only 3.8%. This trend in Naugatuck is the same as that in the State and the County, with the number of housing units increasing but at a decreasing rate.

Housing unit distribution by census tract with the corresponding percentage of vacant, owner and renter occupied units is shown for 1990 in Figure 17. While the distribution of renter and owner occupied housing is similar across most of the census tracts, there is a notable exception in tract 3452.02, where owner occupied housing units comprise the vast majority of the units. This ties in with the fact that this area has experienced the greatest percentage increase in households and has the largest proportion of its population under the age of 18.



In 1997 58.9% of Naugatuck's housing units were single units. [See Table 16 - Housing.) This percentage is similar to the state and New Haven County, but considerably less than the adjoining towns with the exception of Waterbury. This is not unexpected as the more urbanized an area is the more likely it is to have a greater number of multiple unit buildings.

The average sales price and median sales price for homes in Naugatuck in 1996 was $105,871 and $119,950, respectively. These values are nearly the same as Beacon Falls, higher than Waterbury and less than the remainder of the adjoining towns by a considerable amount. Similarly, Naugatuck's aggregate housing value measures were less than New Haven County and Connecticut.

Table 16
Housing
Naugatuck Area Communities, County, and State

	Existing Units 1997	*% Change 1990 - 1997*	*% Single Units 1997*	*Demolitions 1997*	*New Permits 1997*	*Number of Sales 1996*	*Average Price 1996*	*Median Price 1996*
NAUGATUCK	12,395	3.8%	58.9	1	44	307	$ 105,871	$ 119,950
Beacon Falls	2,143	7.1%	70.7	2	25	99	$ 106,663	$ 110,000
Bethany	1,753	9.8%	94.0	-	21	103	$ 196,779	$ 181,500
Middlebury	2,493	5.1%	94.9	2	26	146	$ 189,458	$ 164,500
Oxford	3,282	10.7%	96.5	4	59	189	$ 172,287	$ 172,000
Prospect	2,908	9.8%	91.4	4	55	186	$ 145,269	$ 146,000
Waterbury	47,649	0.9%	39.8	83	43	1,257	$ 76,312	$ 78,000
New Haven County	339,524	3.7%	57.8	296	2,030	12,219	$ 136,734	$ 120,000
Hartford County	353,247	3.2%	59.3	236	2,246	12,260	$ 141,257	$ 123,500
Litchfield County	78,684	5.6%	74.6	54	732	3,673	$ 157,833	$ 130,000
Connecticut	1,374,566	3.9%	62.9	1,193	9,349	55,247	$ 194,596	$ 138,000

Source: U.S Census 1990, *CT Town Profiles*, Department of Economic and Community Development (1998), Claritas, Inc. (1998), Compiled by HMA, Inc.

- **Population and Housing Trends Implications**

In terms of planning for the next 10 years and beyond several population and housing trends in Naugatuck emerge which have future implications. These include:

- The rate of population increase is slowing down; however the percentage of particular age groups (under 5 and over 65) is increasing. The increase in concentration of these age groups will have implications for school facilities and programs, recreation facilities, and facilities and services for the elderly.

- The location of growth in housing units and population is highest in census tract 3452.02 in the eastern portion of the Borough. This growth may result in increased demand for infrastructure and facility improvements. In addition, the potential will exist for the loss of open space in this area. This area includes water company property which might be subject to development.

- The nature of recent housing development tends to be primarily larger and more expensive single family homes. This will continue a diversification of the housing stock but also may result in the increase in school age children.

- As census tract 3452.02 continues to experience development it will increase traffic volumes on Route 63 generated by residents as well as trip to retail facilities within the corridor.

- As residential development in census tract 3452.02 approaches a build out status there may be increased pressure for development in the western portion of the Borough within census tract 3453. This area currently has

some significant open space areas which may be worthy of preservation prior to increased development pressures.

C. Built Environment

1. Existing Development Patterns

Naugatuck's development pattern reflects its history as an older industrially-based community with development along the river typical of the Naugatuck Valley. The commerce which drove the economic engine of the community lead to residential development within walking distance in tightly packed neighborhoods. The downtown served as the governmental, retail and service center of the community with smaller neighborhood centers emerging as the community grew. Churches also emerged as the centers of neighborhood and community activity.

This pattern held somewhat stable through World War 2. As Naugatuck and the Nation moved into the post-war era development patterns reflected a changing economy with more movement to locations outside the community for employment. This trend was supported by changes in the highway network. Soon Naugatuck was experiencing suburban residential development in new subdivisions as well as several multi-family developments. As this occurred, retail and service uses spread from the downtown along the primary roads such as Rubber Avenue and New Haven Avenue. At the same time, newer, modern manufacturing facilities were built outside of the older industrial area at locations including the Naugatuck Industrial Park. On the larger scale, retail facilities tended to cluster in regional shopping centers and people continued to commute further distances to employment.

Today, Naugatuck faces residential development pressure within the areas of the community on the outer fringes existing development as well as retail development within corridors. Long range planning for these residential areas is particularly important due to the challenging topography and natural resource value of many of the areas. In addition, these areas are served by infrastructure of varying quality including water, sanity sewers and roads. In terms of corridor retail development, the challenges are in the areas of design, traffic impacts and relationship to adjacent residential areas. The map entitled Existing Land Use Patterns shows the general extent of development in Naugatuck.

2. Community Facilities

As part of the plan update process, the consultant and Borough planning staff met with Borough officials and department heads for the purpose of obtaining information, attitudes and insight into the jurisdictional area of each official. These meetings were intended to help determine what critical issues the Borough is currently facing as well as to begin the process of assessing the ability of municipal services and facilities to accommodate current need and potential for growth.

- **Public Water Supply**

Public water supply in Naugatuck is provided by the Connecticut Water Company (CWC), an investor owned utility company. Naugatuck is located within the CWC's Central System, which presently serves the towns of Prospect, Waterbury, Beacon Falls, Bethany, as well as Naugatuck. According to the CWC's most current Water Supply Plan conducted in 1994, there were approximately 7485 residential service connections serving approximately 63% of the Borough's population in 1993. Projections developed at that time suggest that this number should remain relatively constant through the year 2010. An update to the CWC's Water Supply Plan was not available at the time of this assessment. The Public Water Supply Map illustrates CWC existing and potential distribution system. As of 1994, there is no interconnection to neighboring water distribution systems. It should be made clear that this is the Connecticut Water Company plan and does not represent public policy of the Borough.

Water Sources

Seven active surface water reservoirs, three surface water diversions and two well fields provide the water supply in the Naugatuck Central System. All active surface water supplies are treated at the W.C. Stewart Water Treatment Plant, which is located in the Borough. Active surface supply includes the reservoir systems listed in Table 17.

Table 17
Surface Water Supplies

Reservoir Name	Location
Long Hill / Twitchell	Prospect / Bethany
Moody / Straitsville	Prospect / Naugatuck
Mulberry	Naugatuck
Candee System	Naugatuck

The Long Hill and Moody Reservoirs are the system's primary storage reservoirs. As necessary, Long Hill Reservoir is augmented by water pumped from Beacon Valley Brook to the Twitchell distribution reservoir, while surface water collected from the Hopkins Pool Watershed is diverted to the Mulberry Reservoir. Upper and Lower Candee Reservoir supply combines with Mulberry water for treatment at the Stewart Treatment Plant. During emergency conditions only, water is pumped from Meshaddock Brook to the Mulberry system.

Four public water supply wells provide water to the Naugatuck Central System, while six bedrock wells are inactive and slated for abandonment. Ground water sources serving the region include the wells listed In Table 18 and illustrated on the Public Water Supply Map.

Table 18
Groundwater Supplies

Well Name	Location
Indian Fields #1 and 2	Prospect
Marks Brook #1 and 2	Naugatuck

The W.C. Stewart Water Treatment Plant provides complete conventional treatment of all water taken from surface water sources. The plant operates automatically and is designed to treat a flow of 6.0 MGD (million gallons per day). This is sufficient capacity to meet CWC's current and projected future demand.

Treatment includes aeration for all water taken from the Long Hill, Moody and Mulberry Reservoirs to prevent oxygen depletion. Water from the Marks Brook Wells also receives treatment including pH adjustment, fluoridation, phosphate addition and chlorination prior to being pumped into the distribution system. Water from the Indian Fields Wells are treated by chlorination, fluoridated and treated with potassium hydroxide for corrosion control.

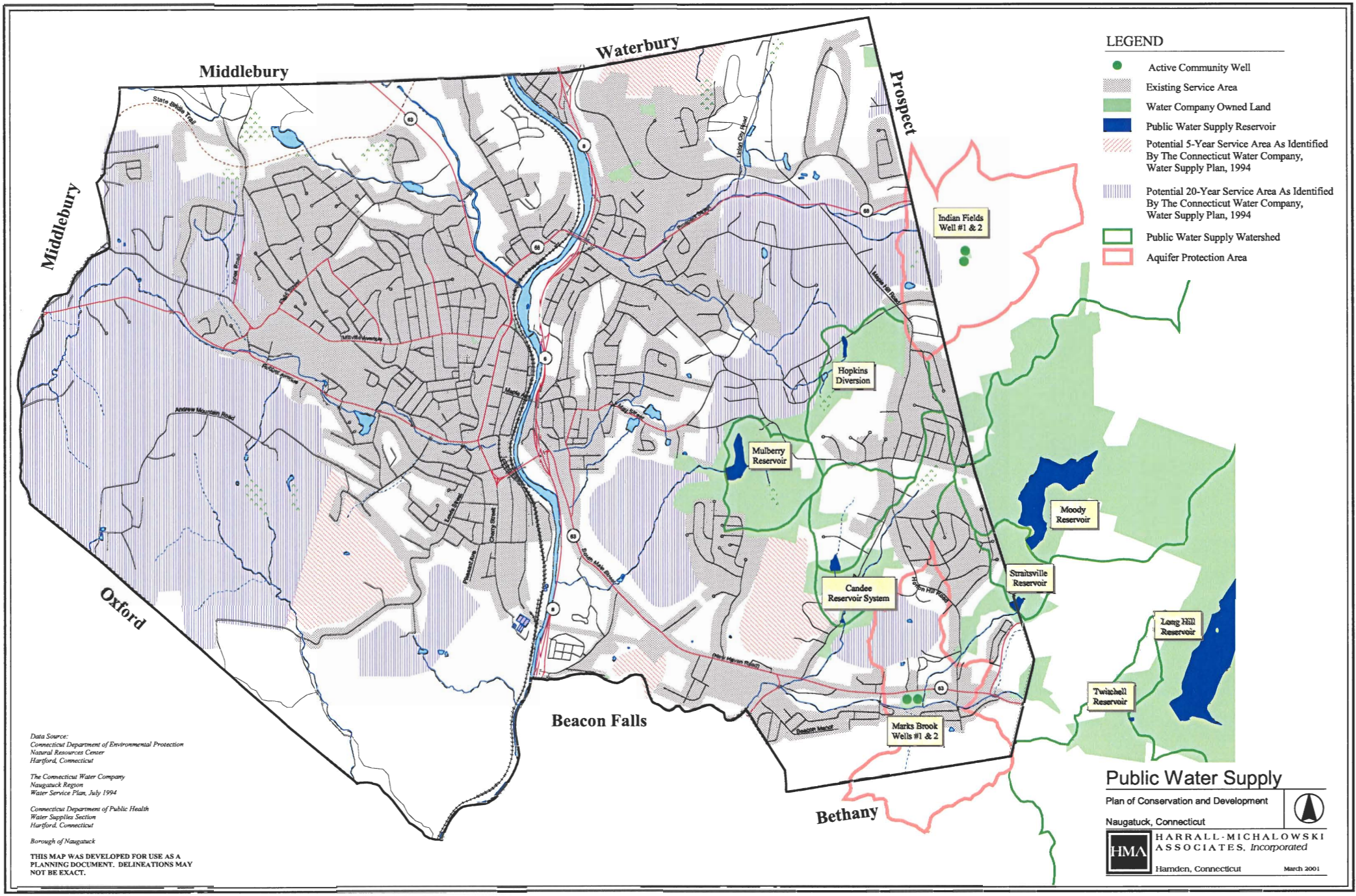
The distribution system consists of ten separate pressure zones. Ten storage tanks provide treated water storage for the Central System. Existing transmission mains are a mixture of varying sizes, ages and materials. CWC has an ongoing program for the upkeep and replacement of old piping that does not meet today's standards.

Naugatuck is one of two towns served by the CWC that maintains partial ownership of the public water supply system. CWC is responsible for water utility functions associated with these portions including operation, maintenance, management and control. All customers connected in these portions are direct customers of CWC. Initial Borough ownership of portions of the utility plant was required to accommodate certain funding requirements of the Borough, and was properly approved by the Department of Public Utility Control (DPUC).

While the number of residential & non-residential customers has increased over the past several years, studies have shown that water use has decreased. This can be partially attributed to conservation efforts as well as an increase in industrial and commercial activities that are less water intensive.

The surface and groundwater supplies provide the Naugatuck Central System with an available 4.35 MGD on an average day basis and 7.00 MGD on a peak day basis. The most current available inventory of average daily demand is 2.62 MGD (1993). Projections developed at that time suggest that average daily demand would increase slightly to 3.07 MGD by 2010, still below the average daily supply of 4.35 MGD as well as the safe yield of the water supply.

Safe yield is defined by the CWC as the maximum quantity of water that can be withdrawn daily during a drought period which recurs, on average, once every 100 years. According to the CWC, the average daily safe yield for the Naugatuck Central System is 3.6 MGD. The amount of available water in excess of demand is expected


Middlebury
Waterbury
Prospect
Middlebury
Oxford
Beacon Falls
Bethany
LEGEND
Active Community Well
Existing Service Area
Water Company Owned Land
Public Water Supply Reservoir
Potential 5-Year Service Area As Identified By The Connecticut Water Company, Water Supply Plan, 1994
Potential 20-Year Service Area As Identified By The Connecticut Water Company, Water Supply Plan, 1994
Public Water Supply Watershed
Aquifer Protection Area
Indian Fields Well #1 & 2
Hopkins Diversion
Mulberry Reservoir
Moody Reservoir
Straitsville Reservoir
Candee Reservoir System
Long Hill Reservoir
Twitchell Reservoir
Marks Brook Wells #1 & 2
Data Source:
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut
The Connecticut Water Company
Naugatuck Region
Water Service Plan, July 1994
Connecticut Department of Public Health
Water Supplies Section
Hartford, Connecticut
Borough of Naugatuck
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Public Water Supply
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to permit projected population increases and anticipated system expansion without adversely affecting the existing quality of service. CWC estimates that there is an adequate water supply to meet future demand through the year 2017.

4. Sanitary Sewers

The sanitary sewer collection system extends throughout most developed areas of the Borough. These areas are shown on the map titled Sewer Service Area. According to the Central Naugatuck Valley Regional Plan of Conservation and Development, approximately 90% of the Borough's population and 38% of the land area is serviced by public sewer. The system is owned and operated by the Borough with the exception of the treatment facility, which is operated by private contractor.

The Borough's sanitary sewer system consists of a series of collection lines, 4 siphons, 5 pump stations and a wastewater treatment plant. The wastewater treatment plant is located at the end of Cherry Street with effluent discharged to the Naugatuck River. The plant was originally built in 1973 with tertiary treatment upgrades added in 1995. It was noted by the plant engineer that the Department of Environmental Protection is developing regulations to minimize the effluent of nitrogen to Long Island Sound. Once these regulations are in place, it is expected that the plant will have to make additional upgrades to its treatment operations to meet the new standards for nitrogen discharges.

The wastewater treatment plant is one of the few municipal/industrial treatment facilities in the state, with Uniroyal being the only significant industrial contributor. The plant has a combined municipal/industrial capacity of 10.3 MGD (million gallons per day) for average flows and 21.5 MGD for peak flows.

The Naugatuck wastewater treatment plant serves 3 other communities as well as the Borough. These communities include Middlebury, Oxford and Beacon Falls. While this technically makes the plant a regional serving facility, Naugatuck is by far the largest contributor. According to plant engineers, average daily flows for the period of 1995-1998 indicate 3.75 MGD was treated with Naugatuck contributing 85% of the wastewater during this period

In 1998, the average daily flows were found to be 5.1 MGD, with 3.9 MDG coming from municipal uses and 1.2 MGD from industrial uses. While this appears to indicate an increasing trend in average daily flows to the plant, this figure is still well below the volumes the plant can handle at only 49.5% of available capacity.

The sanitary sewer system is completely separate from the storm water system. Infiltration and inflow between the two is often a concern due to the additional strain that can be placed on the collection system and treatment facility. In 1991 the Borough contracted a study to assess the potential infiltration and inflow problems of the sanitary sewer system. The results of this assessment indicate that there does not appear to be a large problem with excess infiltration and inflow. The report states "While significant volumes of infiltration and inflow exist, both during rain events and high ground water periods, the impacts of these flows on the system and treatment works have not been a significant problem in the past." It is important to

keep in mind that the collection system is aging which tends to increase the potential for infiltration. However, at the time of the assessment, the key interceptors were found to be relatively new and in sound condition.

The sanitary sewer system includes 5 pump stations. A brief description of each station is listed below.

May Street Station was constructed in 1994 and is located at the intersection of May Street and Maple Hill Road. It receives flow from Maple Hill Road and adjacent side streets north of Inwood Drive. Sewage is pumped to the Inwood Drive station via a 3" main.

Inwood Drive Station was constructed in 1975 and updated in 1984. The station is located on Inwood Drive at the intersection of Inwood Drive and Maple Hill Road, and receives flow from Inwood Drive and Evening Star Drive. Sewage is pumped to a gravity line on Moonlit Circle via a 4" force main.

Platts Mill Road Station is located on Platts Mill Road and serves a development located between Route 8 and the Naugatuck River. Sewage is pumped to the City of Waterbury Wastewater Treatment Plant via a 4" force main.

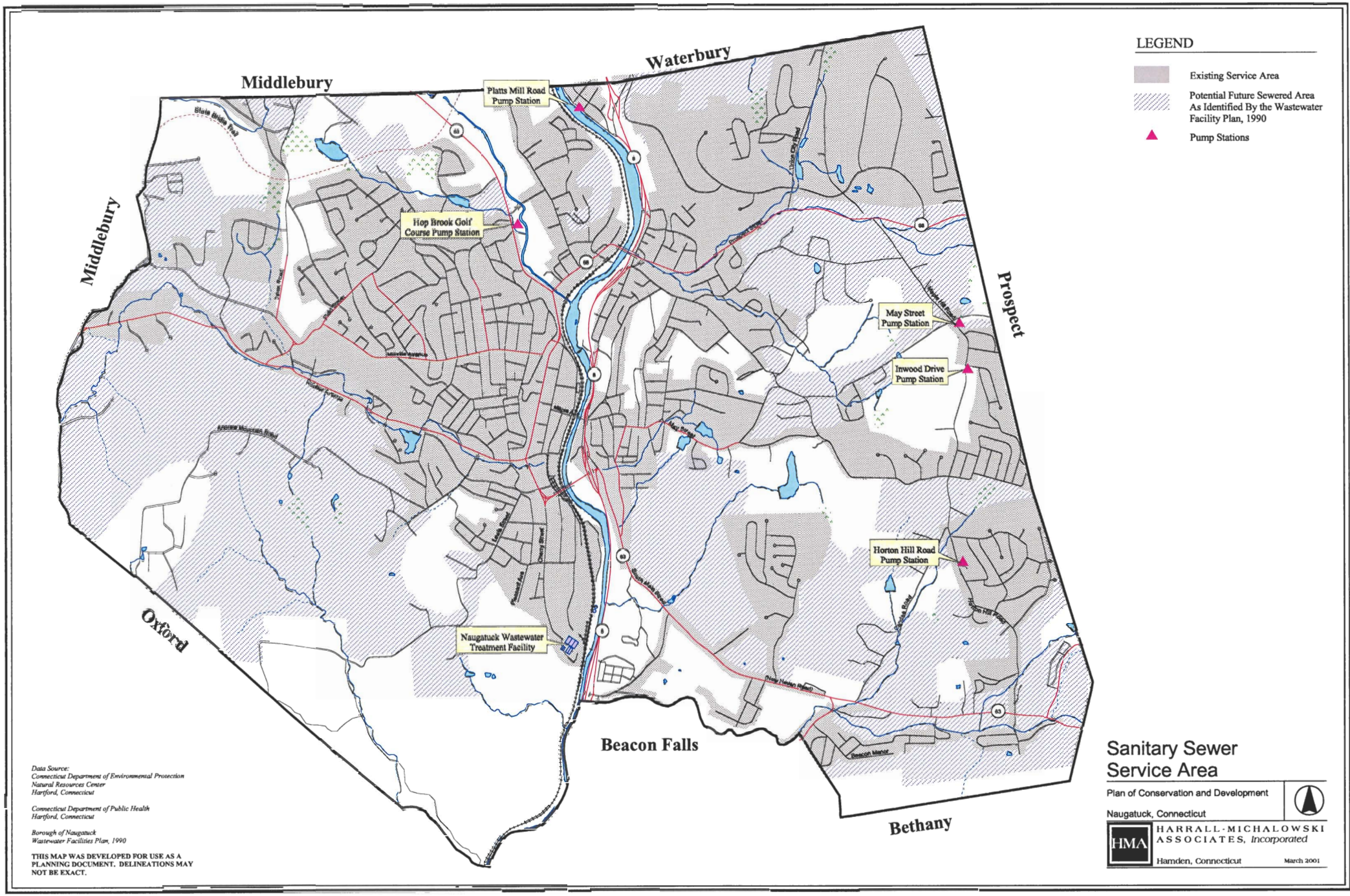
Horton Hill Road Station was constructed in 1985. It is located on Horton Hill Road and receives flow from the northern sections of streets east of Horton Hill Road and south of Bluebird Drive. The force main pumps sewage to a gravity sewer on Mead Road.

Hop Brook Golf Course Station is located on the corner of Porter Avenue and Route 63 in a parking lot. The only buildings connected to this station are a restaurant and golf pro shop.

5. Schools

It is of primary interest that the Town has an adequate number of school sites to serve the potential future school needs of an expanded population. Over the years, the Borough has been focused on assessing the adequacies of the school facilities by contracting the services of the New England School Development Council (NESDEC) to conduct a Long Range School Facility Master Plan. Since 1985, four such plans have been created, the most recent completed in December 1999. The scope of these planning documents are centered on analyzing the present and future needs of the school system and establishing recommendations to address identified problem areas. These documents are quite comprehensive and as described in the 1999 Facilities Plan establish an excellent, "... beginning point for discussion, planning, and ultimate decision-making by school administrators, officials, and citizens of Naugatuck."

In light of the recent completion of the comprehensive Long Range School Facility Master Plan, what follows is a general summary of the Naugatuck School System. The intent here is not to reiterate the results of the NESDEC study, but rather to highlight and summarize the


Middlebury
Waterbury
Middlebury
Prospect
Oxford
Beacon Falls
Bethany
Platts Mill Road Pump Station
Hop Brook Golf Course Pump Station
May Street Pump Station
Inwood Drive Pump Station
Horton Hill Road Pump Station
Naugatuck Wastewater Treatment Facility
LEGEND
Existing Service Area
Potential Future Sewered Area As Identified By the Wastewater Facility Plan, 1990
Pump Stations
Data Source:
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut
Connecticut Department of Public Health
Hartford, Connecticut
Borough of Naugatuck
Wastewater Facilities Plan, 1990
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Sanitary Sewer Service Area
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information included in their findings that are applicable to the Plan of Conservation and Development.

The Naugatuck school system consists of eight elementary schools, two middle schools and one high school. These facilities are listed below and illustrated on the Community Facilities Map.

Table 19
Naugatuck Public School Enrollment and Capacity

School	Grades	Current Operating Capacity[1]	Planned Operating Capacity[2]	1993-94 Enrollment	1999-00 Enrollment
Andrew Avenue	K-5	322	256	276	268
Central Avenue	K-5	344	278	285	266*
Cross Street	K-5	388	256	325	365*
Hop Brook	K-5	448	320	391	425*
Maple Hill	K-5	600	600	462	489
Prospect Street	K-5	308	154	285	290
Salem	K-5	260	194	327	254*
Western	K-5	410	300	331	368
Hillside	6-8	475	225	397	473
City Hill	6-8	900	663	822	935
High School	9-12	1962	1685	1327	1615
Totals		**6417**	**4931**	**5228**	**5748**

The current enrollment breakdown is about 2725 students in elementary school, 1408 in middle school and 1615 in high school. The total enrollment has increased 520 students from the 1993-94 school year.

Within the 1999 study, Current Operating Capacity and the Planned Operating Capacity were calculated for each school in the Borough. The operating capacity differs from architectural capacity in that in addition to the physical space limitations of the school building, program function and pupil/student ratios are also accounted for. In addition, some consideration is given to the way schools are organized and operated, particularly on the middle and high school levels. What this means is that rather then assessing just the physical capacities of a school, consideration is placed on the space requirements of individual programs and the locally accepted student/teacher ratio. This assessment is a more comprehensive measure of a school's ability to adequately serve the students and faculty.

While overall the NESDEC study found the school facilities well maintained and the educational programs "sound and consistent with good practice", problem areas were identified based on current and projected program needs and enrollments as well as the Planned Operating Capacity of the buildings. According the NESDEC study, the middle school level is experiencing the greatest impacts in respect to building capacity especially when building capacities are adjusted to offset noted deficiencies and to provide the necessary

[1] Based on current usage of the building, including classrooms, core and specialized areas (NESDEC,1999)
[2] Based on recommended changes to school to address deficiencies including appropriate class size policy and the inclusion of appropriate core and special use areas (NESDEC, 1999)
* Includes special education enrollment

and sufficient space for conducting a modern educational program (Planned Operating Capacity). As stated by the NESDEC study, "the current enrollments indicate both overcrowding and substantive deficits in the provision of adequate space for a true and comprehensive middle school program."

In respect to the other levels of education, with the exception of a few years (2004/05), the high school appears to have adequate capacity to accommodate students and faculty to the year 2009. The elementary schools, while relatively crowded now, are expected to improve as enrollments drop over the next 10 years.

Over the years, Naugatuck has taken steps to address the growing pains the school infrastructure has been experiencing. In 1989, Maple Hill Elementary School was constructed. In 1987 additions to City Hill Middle School were completed, and in 1993 additions to Hop Brook Elementary School were completed. It is clear from the most recent NESDEC study that more steps are needed to address the growing pains that the Naugatuck school system continues to experience. To resolve the problem areas outlined in the NESDEC study, six alternatives are proposed. All but one of the alternatives recommend the construction of a new middle school to alleviate the capacity problems associated with that grade level.

6. Fire Protection

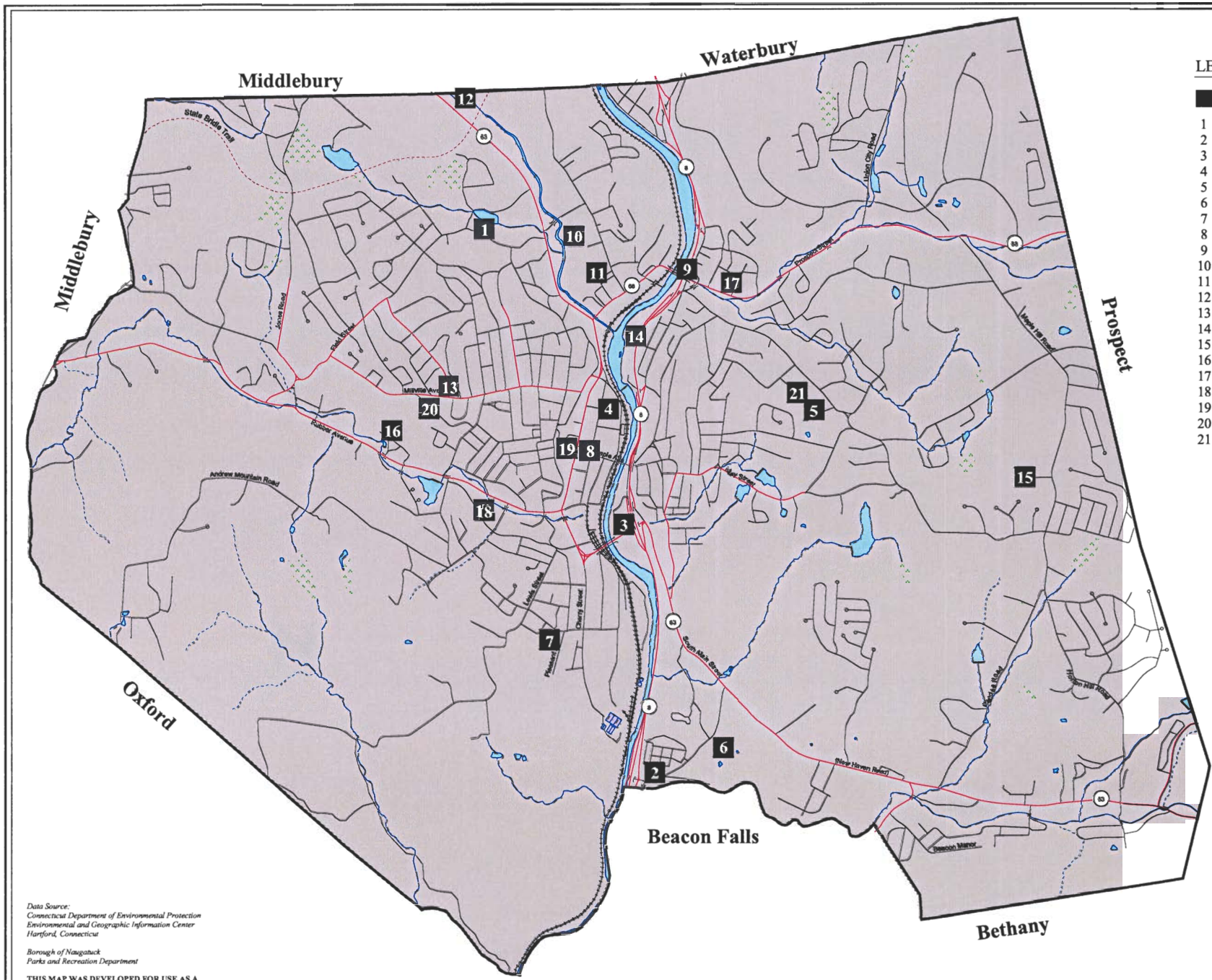
There are two fire stations in Naugatuck. One station is located on Maple Avenue in the downtown area, and the other located on May Street on the east side of the Naugatuck River. The Fire Department has raised concerns about supplying adequate fire protection to existing and potential new development, particularly in the northwest and southeast portions of the Borough. The response time to developments in these areas is a primary concern. In addition, the water pressure in some areas, particularly around the perimeter of the Borough, has been identified as a problem. These areas exhibit low-pressure situations compounding the difficulty in providing proper adequate fire protection.

7. Recreation Facilities

The following presents an inventory of active recreation facilities by size, type and location. The existing improved facilities are evaluated in comparison to recognized national standards.

- **Inventory of Existing Recreation Facilities**

  The Borough of Naugatuck recreation inventory includes 18 publicly owned facilities and 1 privately owned facility. The inventory, inclusive of school uses, covers approximately 250 acres. Table 20 presents a list of parks and schools which contain recreational facilities. These sites are also illustrated on the Recreational Facilities Map.



LEGEND

Existing Parks and Recreation Facilities

1 Baummers Pond
2 Cotton Hollow Field
3 Breen Field North
4 Cedar Park
5 City Hill Middle School
6 Cross Street Elementary School
7 Fairchild Park
8 Town Green
9 Goodyear Park
10 Hop Brook Golf Course
11 Hop Brook School Park & Pool
12 Hop Brook State Park & Lake
13 Legion Field
14 Linden Park
15 Maple Hill Elementary School
16 Naugatuck High School
17 Prospect Street Elementary School
18 Foley Little League Field
19 Salem Elementary School
20 Western Elementary School
21 Union City Little League Field

Data Source:
Connecticut Department of Environmental Protection
Environmental and Geographic Information Center
Hartford, Connecticut

Borough of Naugatuck
Parks and Recreation Department

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Recreational Facilities

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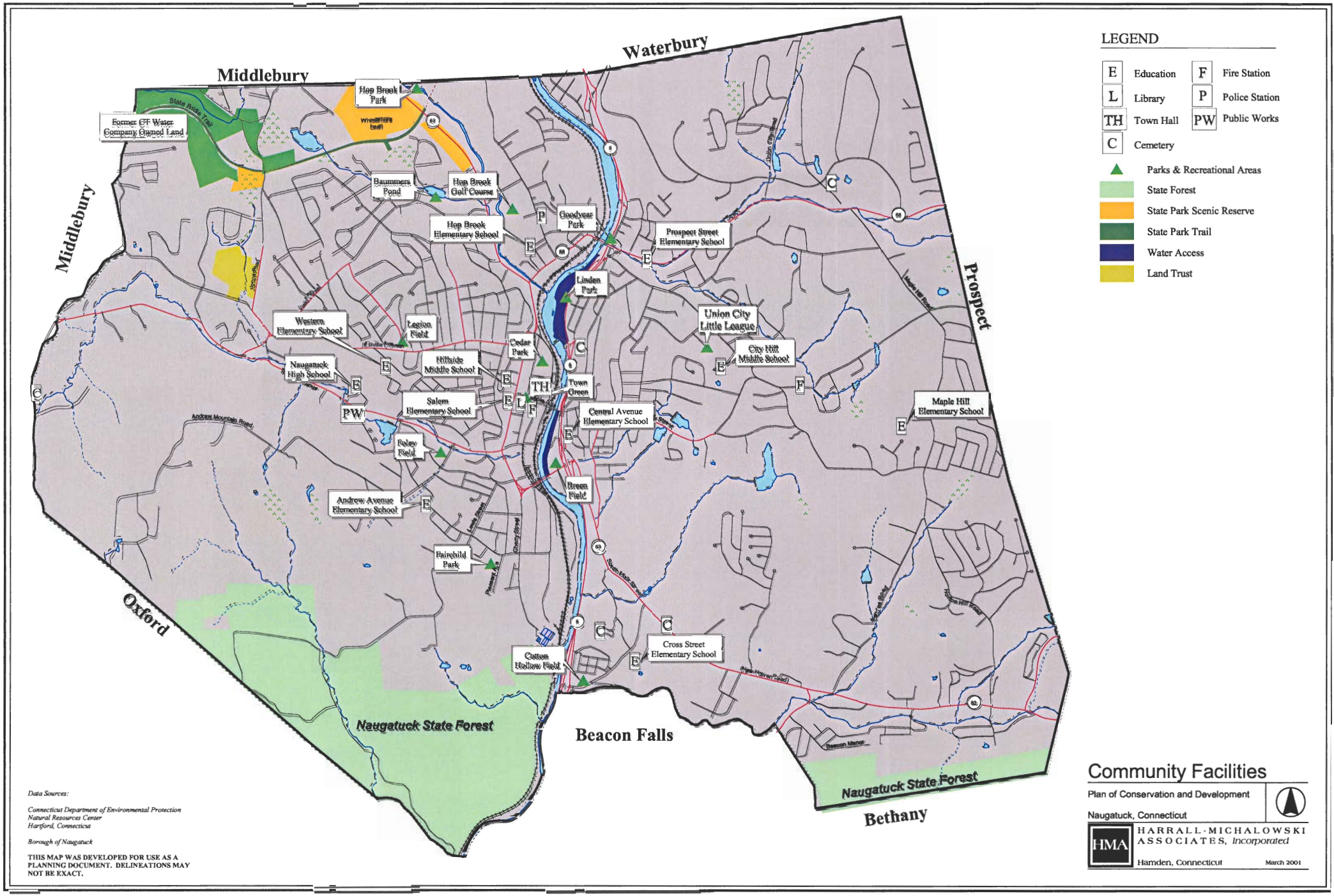

LEGEND

- E Education
- F Fire Station
- L Library
- P Police Station
- TH Town Hall
- PW Public Works
- C Cemetery
- Parks & Recreational Areas
- State Forest
- State Park Scenic Reserve
- State Park Trail
- Water Access
- Land Trust

Data Sources:

Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

Borough of Naugatuck

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Community Facilities

Plan of Conservation and Development

Naugatuck, Connecticut

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Hamden, Connecticut March 2001

Table 20
Naugatuck Parks and Recreation Facilities

Location/Acreage	Facilities
Baummers Pond Field St. 7.8 acres	fishing, ice skating, 1 basketball court, 2 tennis courts, playground
Breen Field North Riverside Dr., Hotchkiss St. 3.20 acres, 8.1 acres	1 softball field, 1 football field, 1 soccer field, playground
Cedar Park Cedar St. & Water St. 0.43 acres	playground
City Hill Middle School 441 City Hill St. 14.19 acres	1 soccer field, 1 tennis court, 1 basketball court
Cotton Hollow Field Cross St. 3.60 acres	1 softball field
Cross Street Elementary School 120 Cross St. 6.40 acres	1 open field, playground with playscape
Fairchild Park Sharon Ave. 36.5 acres	1 basketball court, 1 baseball field, 1 softball field, playground
Foley Little League Field (private) Scott St. 1.89	1 baseball field
Hop Brook Golf Course Church St. 58.70 acres	9-hole public golf course
Hop Brook School Park & Pool Brennan St. 5.38 acres	outdoor pool, 1 baseball/softball field, playground
Hop Brook State Park & Lake Church St. 14.7 acres	swimming, fishing, picnic areas, hiking trails
Legion Field & Park Millville Ave. 1.75 acres	1 basketball court, 1 baseball/softball field, playground
Linden Park Curtiss St. & Rt. 8 5.2 acres	1 basketball court, 1 baseball/softball field, 1 soccer field, 4 tennis courts, 1 volleyball court, playground
Maple Hill Elementary School Maple Hill Road 31.40 acres	1 soccer field, playground with playscape
Naugatuck High School 543 Rubber Ave. 49.8 acres	indoor pool, 1 baseball field, 1 softball field, 1 football field, 1 soccer field, 3 tennis courts
Prospect Street Elementary School 100 Prospect St. 1.10 acres	1 basketball court, playground

Rotary Field See "Breen Field North"	1baseball field, 1 softball field, 1 soccer field
Salem Elementary School 124 Meadow St. 1.20 acres	1 basketball court, 1 playground with playscape
Western Elementary School 100 Pine St. 4.40 acres	1 basketball court, playground
Union City Little League 6 acres	2 baseball fields

- **Comparison to standards**

Historic and conventional standards for minimum park and recreation areas ranged from 10-15 acres per 1,000 population, depending on the reference source. For Naugatuck, such standards would indicate a desirable park and recreation acreage ranging from 300-450 acres. These areas would include playgrounds, ball fields, neighborhood parks, plus town-wide parks, recreation complexes and special purpose areas such as beaches and golf courses. The inventory of Town-owned recreation areas totals about 250 acres including school uses. This suggests the active recreation inventory may be somewhat below the established standards when one considers that substantial portions of the school sites are used for educational purposes. More current publications of the National Recreation and Park Association (NRPA) indicate that acres/population type standard should be given less weight than the desires and resources of the community, and the difference in priorities applied to open space by different communities should be considered. The NRPA advocates this as a "systems" approach which includes a level of service guideline that is needs based, facilities driven, and land measured. According to the NRPA, the "systems" approach to planning is defined as "the process of assessing the park, recreation, open space and greenway needs of a community and translating that information into a framework for meeting the physical, spatial and facility requirements to satisfy these needs". In other words, in order to accurately assess Naugatuck's park and recreation needs, a specific needs assessment should be conducted to identify how the community should focus its park and recreation resources rather than relying on broad brush standards that may or may not reflect the needs of the community.

The State Comprehensive Outdoor Recreation Plan references the 1983 facility standards published by the NRPA. The State planners emphasize that these are guidelines. As noted with respect to acreage standards, the NRPA has most recently promulgated a community based systems approach to recreation planning approach rather then a statistical ratio approach. Still, the guidelines provide a useful reference. Table 21 lists the guidelines for key facilities and how Naugatuck's inventory compares with the guidelines. It is clear from community discussions as part of the preparation of the Plan of Conservation and Development – 2000 that these guidelines are in several cases not appropriate for Naugatuck. For example, the guidelines recommend 3 soccer fields for a community of Naugatuck's population and

Naugatuck has 6 fields currently. This would lead one to conclude that there is an adequate number of soccer fields in the community. However, many people have commented that the number of soccer fields is inadequate.

Table 21
Naugatuck Parks and Recreation Facilities

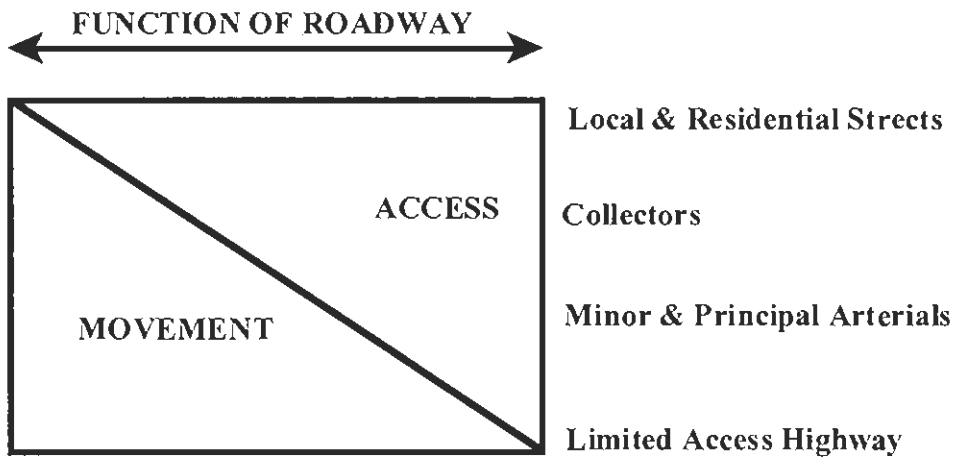
Facility	Units/Population	Naugatuck Need	Available
Basketball	1/5,000	6	8
Ice Rink	1/100,000	1	0
Tennis	1/2,000	16	10
Volleyball	1/5,000	6	1
Baseball/Softball	1/2,500	12	12
Field Hockey	1/20,000	1-2	0*
Football	1/20,000	1-2	2
Soccer	1/10,000	3	6
Golf Course	1/50,000	1	1
Track	1/20,000	1-2	1
Swimming Pool	1/20,000	1	2**

* May be overlaid on soccer fields

** Includes one indoor and one outdoor pool

8. Roadway Network

All roadways whatever their classification provide in varying degrees either "movement" or "access". On the high end of the "movement" function there is CT Route 8. This highway has extremely limited access; with only four (4) interehanges (entrances and exits) along its 3½ mile path through Naugatuck. On the low end of the "access" function there are any number of local residential streets.



As can be easily seen from the above figure, local and residential streets are designed for and intended almost exclusively to provide access to the abutting land uses, while limited access highways are intended and designed specifically to provide the highest level of through traffic movement with essentially no provisions for providing access to abutting properties. Collectors and minor and principal arterials provide far more balance between access to abutting properties and provision for through movement.

Functional Classification	Public ROW Width	Overall Pavement Width	Curbs	Sidewalk
Local & Residential	50'	20' - 26'	Desirable	Desirable
Local Collector	50'	30' min.	Yes	Desirable
Minor Arterial	50' - 60'	30' - 36'	Yes	Desirable
Principal Arterial	60' min.	36' - 48'	Yes	Desirable

In a very general classification, the roadway network in the Borough is summarized in the following table:

	Classification	Roadways Included	Mileage	% of Total Miles
-	Interstate Highways	n/a	0	0%
-	Limited Access Highways	CT Rte 8	+3.5 miles	2.5%
-	Major (Principal) Arterials	CT Rtes 63 & 68	± 7.1 miles	5.0%
-	Minor Arterials	Spring Street, Union City Rd, North Main Street	± 4.5 miles	3.0%
-	Collectors	Rubber Avenue, City Hill Rd, May Street, Horton Hill Rd	±17.2 miles	12.5%
-	Accepted Local & Residential Streets	Candee Rd, Wooster St, Great Hill Rd, etc.	± 97 miles	71.0%
-	Unaccepted Local & Residential Streets	Various	± 8miles	6.0%
			TOTAL MILES ± 137.3	

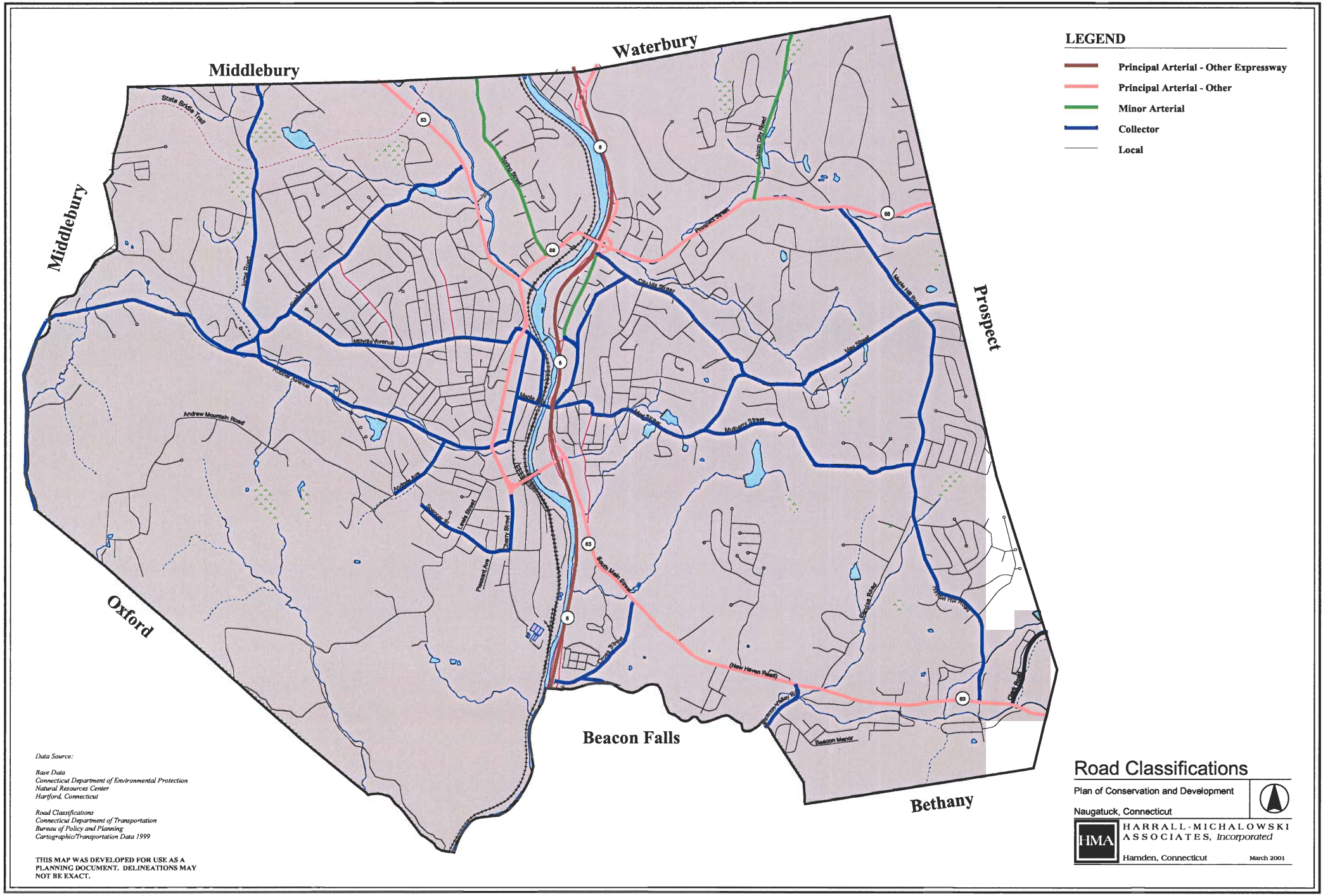
The map titled Road Classifications, graphically depicts the above described roadways within the Borough.

- **Functions of Roadways**

The following diagram graphically depicts the "movement and "access" relationship.

- **Circulation Issues in Naugatuck**

As is the situation in most suburban communities, the Borough of Naugatuck's transportation system is comprised primarily of a surface roadway network. This roadway network encompasses local and residential streets, collectors, minor and principal arterials and limited access State highways. As discussed above, the functional roadway classification system, while used for planning and funding



Data Source:

Base Data
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

Road Classifications
Connecticut Department of Transportation
Bureau of Policy and Planning
Cartographic/Transportation Data 1999

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Road Classifications

Plan of Conservation and Development

Naugatuck, Connecticut

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Hamden, Connecticut March 2001

purposes, also set forth specific criteria for providing "access" to abutting properties, and for the "movement" of vehicle traffic into and through the Borough.

It is important to note that these roadway classifications are not directly related to the actual amount of vehicular traffic volumes on these roads, but rather how each functions in terms of "access", "movement" and to a lesser (although important) degree, their geometric cross-section. Most often problems arise when a lower classification roadway, such as a local or secondary collector, or local road begins to function at a higher classification such as a minor (or low principal) arterial roadway. Roads originally intended to provide primarily for localized access to abutting properties are typically not designed for or generally suitable for accommodating the higher speeds and higher volumes typically associated with through traffic movement.

- **Traffic Volumes Trends**

Average Daily Traffic (ADT) volume data was obtained from the Connecticut Department of Transportation (ConnDOT) for each year between 1988 and 1998; the most current year for which there is compiled data. This data has been organized and is presented on Table 22. While this data is specifically for the State highways that pass through Naugatuck, it is statistically reasonable to conclude that the non-state routes within the Borough exhibited very similar growth, or as is the case on several of these routes, non-growth.

Interestingly, even those roadway segments that did experience a growth in traffic volumes; with the exception of CT Route 68 - Union City Road to the Prospect Townline (26%) per year and Union Street (SR 723) at Route 68 (2.7%) per year; all the computed growth rates were below the State's average project growth rate of $\pm$2% per year.

Essentially, both in terms of actual numerical growth and percentage growth, traffic problems, whether related to perceived congestion or travel delay do not seem to be directly related to what one might attribute to "new" traffic, produced by recent land development activities. In fact, based on examination of the State Traffic Commission's records for recent approved "Major Traffic Generators" (exceeding 200 parking spaces or 100,000 gross square feet) only four (4) projects; Cross Point Plaza, East Naugatuck Shopping Center, Bridge Street Plaza and Wal-Mart, have been approved in the past ten (10) year period, coinciding with the traffic volumes, presented on Table #22. Thus, it would appear that perceived traffic safety and circulation problems are not a direct product of new development activities. The probable cause of these perceived problems is most likely due to the increase in mid-block left turn interference. This phenomenon and its impacts on traffic operation is discussed in greater detail in a subsequent section of this document.

TABLE 22
TRAFFIC VOLUME TRENDS (ADT'S)[2]

Route or Street	Location	YEAR											Numerical change in VPD Between 88 & 98[1]	Average Annual Change 88 & 98[1]	Total Percentage Change in Volumes	Average Annual Percentage Change
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998				
Route 8	Naugatuck/Beacon Falls Townline	31,300	31,000	30,900	31,300	31,200	31,500	31,500	37,500	N/A	36,900	36,800	(+)5,500	(+)550	(+)17 6	(+)1 8
	@ Exit to Route 63	33,300	32,900	32,800	34,200	34,100	34,400	34,100	40,400	N/A	39,700	39,700	(+)6,400	(+)640	(+)19 2	(+)1 9
	@ Maple Street	35,700	35,300	35,200	35,000	34,900	35,200	35,700	41,900	N/A	41,600	41,500	(+)5,800	(+)580	(+)16 2	(+)1 6
	@ from Route 710	44,300	43,800	43,600	42,500	41,700	42,100	41,500	43,400	N/A	42,900	42,800	(-)1,500	(-)150	(-)3 4	(-)0 3
	@ Exit from 847	45,100	44,600	44,400	42,500	42,400	42,800	41,900	42,100	N/A	42,300	42,400	(-)2,700	(-)270	(-)6 0	(-)0 6
	@ Waterbury Townline	38,800	38,400	39,500	37,400	37,300	37,600	37,300	43,800	N/A	44,000	44,300	(+)5,500	(+)550	(+)14 2	(+)1 4
Route 63	Bethany/Naugatuck Townline	6,700	6,700	6,900	6,900	6,900	7,500	7,500	7,600	N/A	7,900	8,000	(+)1,300	(+)130	(+)19 4	(+)1 9
	@ Horten Hill	6,700	6,700	6,900	6,900	6,900	7,500	7,500	7,600	N/A	7,900	8,000	(+)1,300	(+)130	(+)19 4	(+)1 9
	@ Candee	9,400	9,600	9,400	9,500	9,500	9,600	9,600	9,600	N/A	10,600	10,800	(+)1,400	(+)140	(+)14 9	(+)1 5
	@ 709 South Main Street	14,100	14,300	13,600	13,700	13,700	15,800	15,800	15,800	N/A	16,000	16,300	(+)2,200	(+)220	(+)15 6	(+)1 6
	@ Rubber Avenue	11,900	12,100	12,200	12,200	12,300	12,600	12,600	12,600	N/A	11,600	11,600	(-)300	(-)30	(-)2 5	(-)0 3
	@ Church Street	8,100	8,200	9,100	9,200	9,200	9,800	9,800	9,800	N/A	9,000	8,900	(+)800	(+)80	(+)9 9	(+)1 0
	@ Route 68	13,200	13,400	14,700	14,800	14,800	14,700	14,700	14,800	N/A	14,850	14,800	(+)1,600	(+)160	(+)12 1	(+)1 2
	@ Naugatuck/Waterbury Townline	11,100	11,200	11,700	11,800	11,500	11,200	11,200	11,100	N/A	11,000	10,800	(-)200	(-)20	(-)1 8	(-)0 2
Route 68	@ Route 63	10,000	10,100	11,100	11,200	11,200	10,000	10,000	10,000	N/A	12,500	12,900	(+)2,100	(+)210	(+)19 4	(+)1 9
	@ Union City Rd	9,900	10,100	9,900	10,000	10,000	10,200	10,200	10,200	N/A	10,200	10,300	(+)400	(+)40	(+)4 0	(+)0 4
	@ Naugatuck/Prospect Townline	7,800	9,000	7,500	7,600	7,600	8,500	8,500	8,500	N/A	9,500	9,800	(+)2,000	(+)200	(+)25 6	(+)2 6
Route 709	Route 63 to Maple Street															
South Main St	@ Route 8	9,300	9,400	9,000	9,100	9,100	9,300	9,300	9,400	N/A	10,900	10,400	(+)1,100	(+)110	(+)11 8	(+)1 2
	@ Maple Street	6,300	6,400	5,700	5,700	5,700	6,100	6,100	6,200	N/A	6,400	6,600	(+)300	(+)300	(+)4 8	(+)0 5
Route 710 From Rte	SR 723 (Golden Court)	4,500	4,600	4,900	4,900	4,900	5,700	5,700	5,700	N/A	4,300	4,300	(-)200	(-)20	(-)4 4	(-)0 4
723 to Hopkins St	@ Exit from Route 8	10,000	10,200	10,200	10,300	10,300	10,200	10,200	10,300	N/A	10,400	10,400	(+)400	(+)40	(+)4 0	(+)0 4
	@ Hopkins Street	5,600	5,700	6,100	6,200	6,200	5,900	5,900	5,900	N/A	5,200	5,000	(-)600	(-)60	(-)10 7	(-)1 1
Route 723	@ Route 68 Prospect Street	6,850	6,900	7,100	7,200	7,200	5,700	5,700	5,700	N/A	8,200	8,600	(+)1,800	(+)180	(+)26 5	(+)2 7
Union St	@ 710 North Main Street	6,300	6,400	7,100	7,100	7,100	5,700	5,700	5,700	N/A	6,500	7,000	(+)700	(+)70	(+)11 1	(+)1 1
SR Rte 847 Platts	@ NB Ramp to Route 8	6,700	6,800	6,600	6,600	6,700	4,800	4,800	4,800	N/A	5,000	5,100	(-)1,600	(-)160	(-)23 9	(-)2 4
Mill Rd to Rte 262 Wtby	@ Naugatuck/Waterbury Townline	10,900	11,100	11,600	11,700	11,700	10,900	11,000	11,000	N/A	11,000	10,900	n/c	0	0	0

[1] VPD: Vehicles Per Day

[2] Source: ConnDOT Traffic Logs

- **Motor Vehicle Accident Trends**

A review of motor vehicle accident statistics furnished by the Naugatuck Police Department for January 1996 through November 1999 provides data for roadway segments throughout the Borough. Examination of this data suggests the following ranking of locations where accidents have occurred:

a. New Haven Road (CT Route 63) with 344 accidents
b. Rubber Avenue with 340 accidents
c. Meadow Street with 129 accidents
d. Prospect Street with 119 accidents
e. Bridge Street with 109 accidents
f. South Main Street with 105 accidents
g. Church Street with 99 accidents
h. Maple Street with 98 accidents
i. North Main Street with 78 accidents
j. Spring Street with 74 accidents

A cross-check of this accident data to ConnDOT's Intersectional Accident Locator Index, which ranks Hillside Avenue at Millville Avenue as #1, Andrew Avenue at Rubber Avenue as #2, and Maple Avenue at Water Street as #3 shows little, if any, direct correlation to the Naugatuck Police Department's data. Further accident investigation and analysis will be required to further quantify the exact location, cause and contributing factors to the high number of accidents recorded by the Naugatuck Police Department for their ten (10) highest corridors.

- **Traffic Control Signals**

Utilizing Borough furnished data, it is reported that there are some twenty-three (23) traffic-control signals located within the Borough boundaries. Of these, sixteen (16) are owned and operated by ConnDOT, six (6) by the Town and one (1) is privately owned. While the state has regularly updated the operations and capability of their equipment, it is also reported that the Town has not regularly maintained their equipment, which has produced less than optimal operation, thus increasing the perception of traffic congestion due to inefficient signal operation.

II. ANALYSIS AND FUTURE IMPLICATIONS

A. Development Potential

1. Residential Development Potential

- **Introduction**

To effectively plan for growth in a community, one thing that civic leaders must clearly understand is where new development can be accommodated. Fitting the demands for housing or new commercial and industrial development with the physical constraints of the landscape and existing regulatory controls can prove to be a significant challenge. Compounding this challenge are the issues that emerge when making decisions on where new development should take place. Issues such as are the necessary public facilities available, is the road network suitable for the proposed development type or density, is there adequate fire protection, or are valuable natural resource areas being threatened or lost?

While the issues that emerge are important, the reality remains that there is only a finite amount of land that can be developed. Understanding where the developable land is located and how much development can be accommodated based on current zoning and the general land characteristics is the first step in establishing a plan for future development. Once this is done, issues such as infrastructure limitations and natural resource protection can be considered and new growth can be properly planned.

The analysis presented here focuses on residential development potential. In conducting this type of analysis, there are three important variables to consider: (1) the total amount of vacant land (2) the significant physical constraints of the land and (3) the zoning restrictions placed on that land. The accuracy of these variables plays an important role in developing realistic projections. To identify these variables, current zoning information was acquired from the Borough and the Central Naugatuck Valley Council of Governments. Also, existing land use information and mapping was provided by the Central Naugatuck Valley Council of Governments. This existing land use information is shown on the Existing Land Use Map. In addition, a vacant land analysis was conducted to identify large undeveloped areas of the Borough. By putting these variables together and interpreting the results, we can begin to quantify the residential development potential within the Borough.

- **Vacant Land Analysis**

A vacant land analysis was conducted to identify large undeveloped areas of the Borough. This was accomplished by analyzing a combination of data sources including aerial photography and digital mapping of existing development and restrictive land uses such as publicly owned open space. This approach works well in a setting like Naugatuck because it is relatively easy to identify large undeveloped areas due to the dense forest cover contrasting sharply to the dense areas of development.

Unlike a parcel-based analysis in which the ownership and land use for each parcel is categorized, the approach used here simply identifies areas in the Borough that are void of development. This is a more generalized but effective approach. However, just showing areas lacking development says little about development potential, it only shows the gross land area available for development. By taking into account significant physical constraints (steep slopes, floodplains and wetlands), elements that can also be mapped, a better understanding of the developable land area can be acquired.

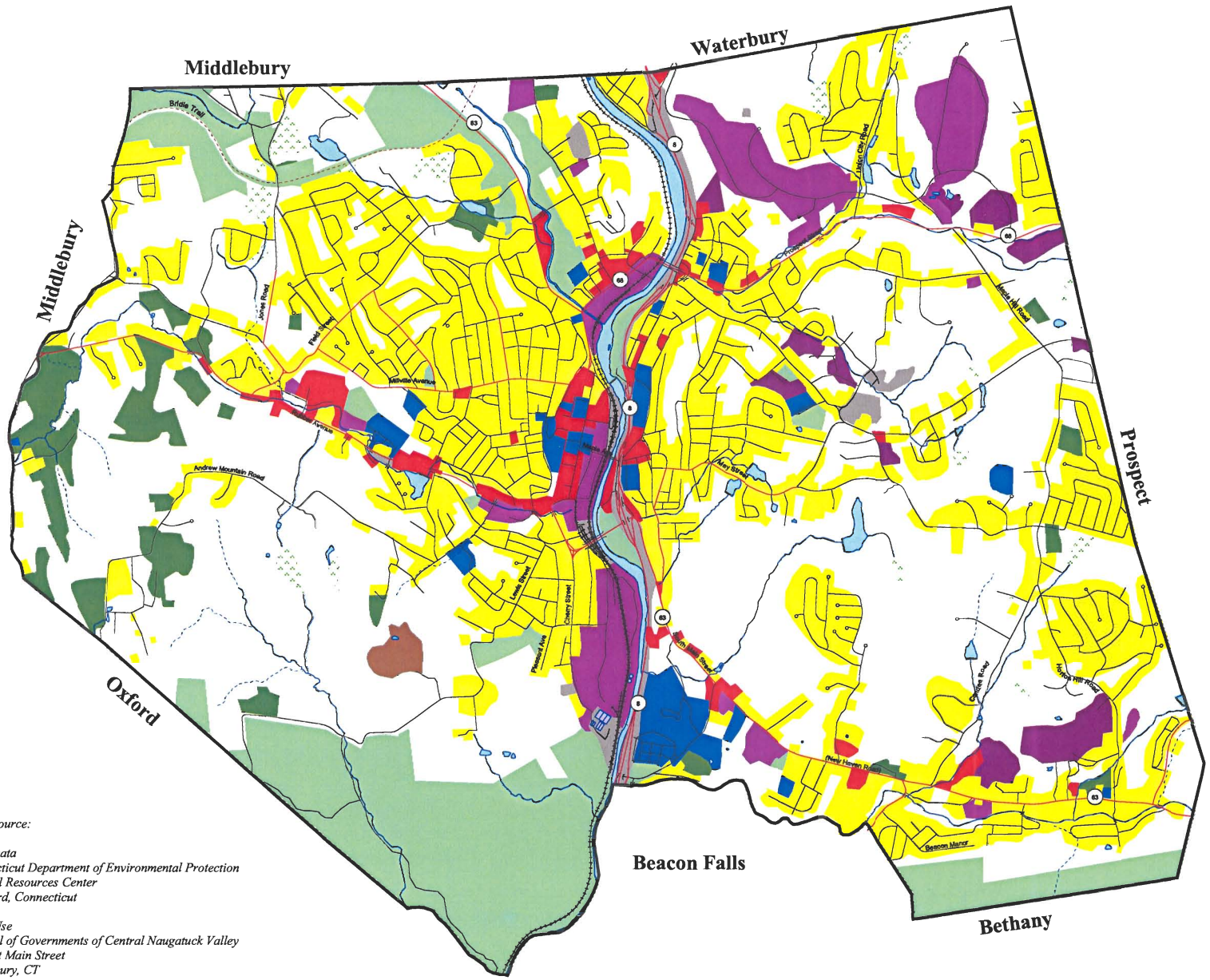
To create the basis for this analysis, digital aerial photographs of the Borough were acquired for the years 1991 and 1995. These photographs were studied comparatively using ArcView Geographic Information System (GIS) technology. The 1991 aerial photographs were used as the base in which areas that are void of development (forested areas) were outlined on the photographs. In addition, areas that contain open fields were outlined and identified as agricultural areas. Whereas agricultural areas are distinguishable from vacant land on the aerials, their future development potential is similar. As farmers find it more difficult to make ends meet or as new generations decide not to farm, agricultural areas are sold for development. Because of this trend, agricultural lands are considered subject to development in this analysis.

The vacant land areas delineated on the 1991 aerial photographs were compared to the 1995 aerial photographs to identify any changes in development that might have occurred. After studying the photographs, 18 areas were identified as having new development and therefore no longer vacant. These areas were primarily composed of new subdivisions in various stages of development and concentrated in the northeast and southeast side of the Borough. These new developments were confirmed in the field and removed from the inventory.

State and Federal land was also removed. The areas around Naugatuck State Forest, Whittemore Glen State Park Scenic Reserve, and Hop Brook Lake consist of significant tracts of vacant land. However, the likelihood of these areas becoming available for development is slim and were therefore removed from the inventory. In addition, the Laurel Park landfill site, an EPA Superfund site, was excluded from the inventory. The location of the site has been included on several maps.

Whereas the development potential of State and Federal land can safely be assumed to be low, water company owned land is more unpredictable. Across the state, land held by water companies is being sold off at unprecedented rates. Although the trend appears to be that conservation groups and municipalities attempt to purchase this land for preservation, the fate of water company land in Naugatuck is uncertain. However, current trends illustrate that as Water Company land is being sold, the land is often remaining as Open Space. This trend has a lot to do with the fact that the State has made significant grant monies available for open space protection. Because of these trends, Water Company land is not included in this analysis.

The results of the vacant land inventory yields approximately 3170 acres or 30% of the Borough's 10,560 acres of land area with the greatest concentration located on the



LEGEND

- Agriculture*
- Institutional
- Commercial
- Industrial
- Recreational
- Residential
- Resource Extraction
- Transportation & Utilities
- Laurel Park Landfill

Data Source:

Base Data
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

Land Use
Council of Governments of Central Naugatuck Valley
20 East Main Street
Waterbury, CT

***Agricultural lands include the following: tilled land, pasture, nursery, orchard, commercial orchard, or dairy.**

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Existing Land Use

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Naugatuck, Connecticut

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Hamden, Connecticut March 2001

southwest side (Table 23). While this acreage is a general representation of the gross land area held in an undeveloped state, not all the land illustrated is developable. To calculate the developable vacant land area, constraints to development have to be considered.

Table 23
Current Zoning of Vacant Land

Zone Boundary	Approximate Acreage of Vacant Land Within Each Zone
R-30	1505
R-15	1025
R-8	160
RA-1	40
RA-2	5
B-2	45
I-1	5
I-2	165
PDD	170
RSC	50
TOTAL	3170

- **Significant Physical Development Constraints**

Significant physical development constraints, as defined in this analysis, include steep slopes of 15% or greater, 100 and 500-year floodplains and wetlands as illustrated on the Development Constraints Map. It should be noted that current zoning regulations discount areas having a slope of 30% or greater from the "net buildable area" to calculate minimum lot areas. However, for the purposes of this analysis on the planning level, we believe the 15% standard is more appropriate. This information is used to calculate developable vacant land areas by employing the GIS to conduct a digital overlay with the land areas identified in the vacant land inventory. Areas where the two overlap were removed leaving vacant land areas that based on their physical conditions have the potential for full development. This analysis yields approximately 1520 developable acres or 14% of the Borough's land area as shown on the Developable Vacant Land Map.

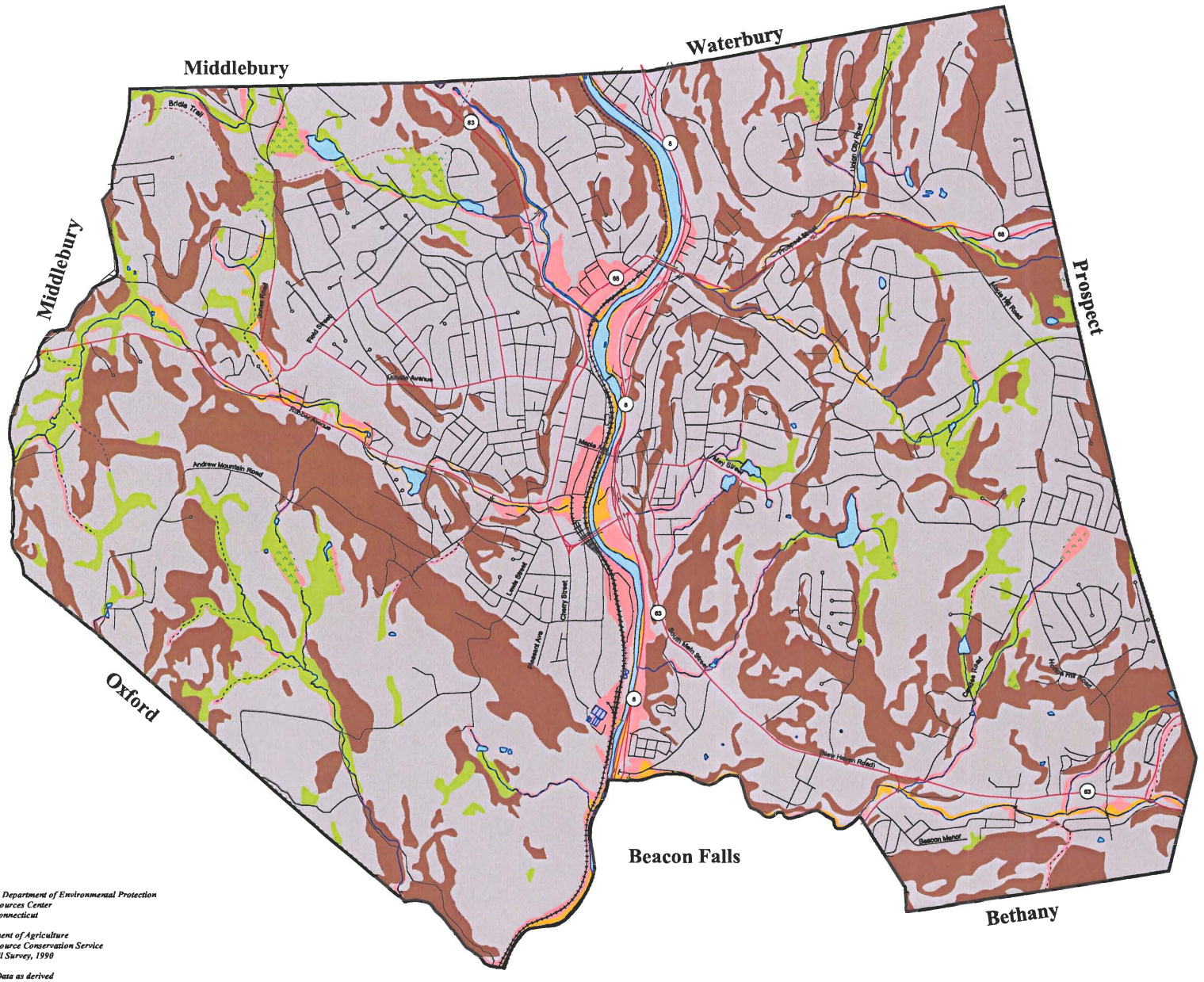
- **Zoning Overlay**

To further quantify the Borough's residential development potential, current zoning boundaries were imposed on the vacant land areas in order calculate the amount of development that could occur (i.e. number of dwelling units). By using the GIS to conduct this overlay, the approximate acreage of both vacant land and buildable vacant land areas (vacant land subtracting out development constraints) were calculated for each zone (Table 24).

Table 24 Current Zoning of Developable Vacant Land (Vacant Land – Development Constraints)	
Zone Boundary	Approximate Acreage of Vacant Land Within Each Zone
R-30	740
R-15	470
R-8	65
RA-1	20
RA-2	5
B-2	25
I-1	0
I-2	60
PDD	100
RSC	35
TOTAL	1520

- **Residential Development Potential**

Table 24 illustrates that approximately 1300 of the 1520 acres of buildable vacant land are zoned for residential use (R-30, R-15, R-8, RA-1, RA-2). This acreage is translated into additional dwelling units by factoring in the area requirements of each zone. In addition, access to public water and public sewers must be accounted for in the R-15 zones. This is because according to current zoning regulations any dwelling built in an R-15 zone must have access to these public services. If they do not, then those areas must be built at a lower density. To account for this zoning requirement, those areas identified as buildable vacant land and zoned R-15 within the existing public water and sewer service areas were calculated at the R-15 density. Those areas identified as buildable vacant land and zoned R-15 outside existing public water and sewer services areas were calculated at the R-30 density. To calculate this residential development potential, the acreage for residential zones was used subtracting out 10% for the necessary road infrastructure. By dividing the area of buildable vacant land by the minimum square foot requirements of the respective zone, an estimate on the number of potential dwelling units is derived (Table 25).



LEGEND

- Steep Slope Soils (15% or greater)
- Wetland Soils

FEMA Floodplain Boundaries

- 100-Year Floodplain
- 500-Year Floodplain

Note:
Only soils units with a minimum slope of 15% have been depicted on this map. Other soil units which have a minimum slope of less than 15% and a maximum slope of greater than 15% may exist.

Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

US Department of Agriculture
Natural Resource Conservation Service
Detailed Soil Survey, 1990

Q-3 Flood Data as derived
from Flood Insurance Rate Maps (FIRM)
Federal Emergency Management Agency, 1996

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Development Constraints

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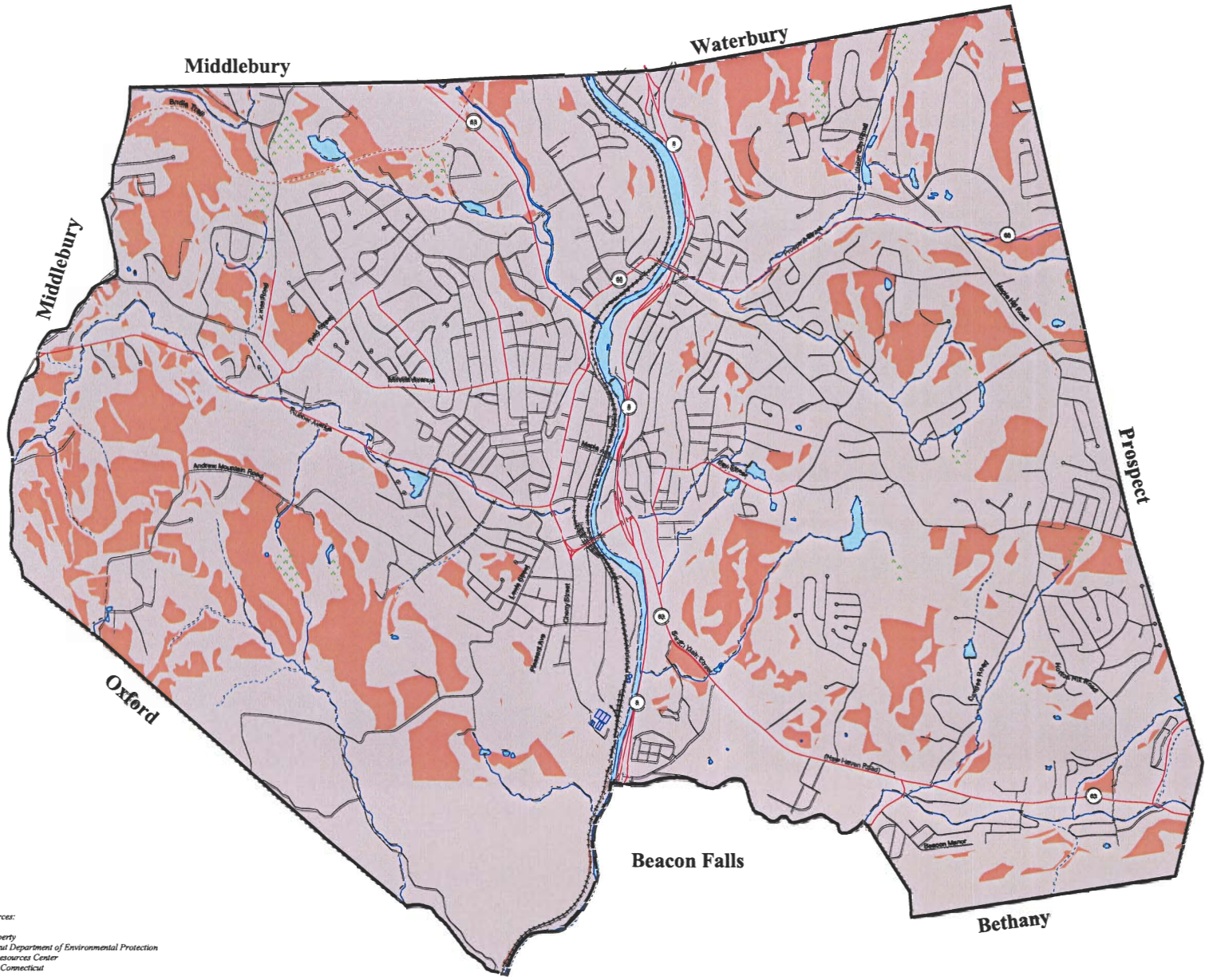

LEGEND

Developable Vacant Land
(vacant land minus development constraints)

Data Sources:

DEP Property
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

Vacant Land Areas were digitized from 1995 aerial photographs. These areas are intended to delineate general locations of large, undeveloped land.

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Developable Vacant Land

Plan of Conservation and Development

Naugatuck, Connecticut

HMA HARRALL-MICHALOWSKI ASSOCIATES, *Incorporated*

Hamden, Connecticut March 2001

Table 25 Potential Dwelling Units		
Zone Boundary[1]	Approximate Acreage of Vacant Land Within Each Zone[2] (-10% for Road Infrastructure)	Approximate Number of Dwelling Units
R-30 (30,000 sq. ft. minimum)	665	965
R-15 (15,000 sq. ft. minimum)[3]	**105**	**305**
R-15 (30,000 sq. ft. minimum)[4]	320	465
R-8 (8,000 sq. ft. minimum)	60	325
RA-1 (5000 sq. ft. minimum)[5]	**20**	**175**
RA-2 (10,000 sq. ft. minimum)	5	20
TOTAL	**1175**	**2255**

Approximately 2255 additional dwelling units situated on approximately 1175 acres could be built in the Borough. This figure represents an approximate 19% increase over the 11,925 dwelling units calculated during the 1990 census. These figures are illustrated graphically on the Potential Dwelling Unit Map. On the map, the total additional dwelling units are divided up by 1990 census tract boundaries. For comparison, the dwelling units calculated during the 1990 census are listed below the potential dwelling units calculated in this analysis. In addition, the percent increase that these additional dwelling units would have over the 1990 census housing unit count is listed as well. It is no surprise that that the areas with the greatest potential for new residential development are the areas with the greatest amount of vacant land zoned residential. These areas include the southwest side of the Borough (census tract 3453) and the south-central portion of the Borough (census tract 3452.01), an area that has already seen a significant increase in residential development over the past few years.

These results come with the caveat that since there are many variables involved, land suitable for development changes as a result of pressure to develop. Whereas steep slopes, floodplains and wetlands are relatively fixed variables, a town's willingness to see such land used for development can change resulting in more acreage opened and the development potential increased. The greatest variable in this equation is in the areas containing steep slopes. As discussed earlier, the current zoning regulations use a 30% slope standard to calculate buildable area. Conversely, additional constraints can be imposed, such as aquifer protection regulations. In sum, the development potential totals given here are theoretical and are subject to change.

In addition, it is important to keep in mind that the number of potential dwelling units presented here represents *full build out* of residentially zoned vacant land. The likelihood of this full build out scenario occurring during the life of this plan is very slim. Therefore these numbers are only used as a point of reference and not as an expected scenario.

[1] In addition to the zones listed in Table 2, an R-45 zone appears in the zoning regulations. However, currently this zone has not been delineated on the Borough's zoning map and therefore is not reflected in this analysis.
[2] Because of the multi-family status of the RA-1 and RA-2, these zones do not reflect the 10% land area reduction for road infrastructure.
[3] Vacant Land within an R-15 zone with access to public water and/or sewer.
[4] Vacant land within an R-15 zone without access to public water and/or sewer.
[5] The minimum square footage listed is for each dwelling unit permitted.

- **Summary and Conclusions**

It is an important aspect of the planning process to evaluate the potential impact of such residential growth (coupled with non-residential growth) on public facilities (schools, parks, recreation, etc.) and infrastructure (roads, sewers, waters, etc.) to see what, if any, constraints they may pose on future development. If there are constraints to these levels of development, then the Borough has two choices: (1) provide additional facilities and infrastructure to adequately accommodate this additional development; or (2) limit the amount and/or rate of future growth to the level of facilities and infrastructure the Borough is willing to provide.

In addition, there is always a third choice and that is a "do nothing" alternative which would mean to let happen whatever will happen without the Borough providing any planning guidance or control and hoping to be able to cope with whatever contingencies may arise in the future. This approach results in having to deal with issues on an individual application basis through the site plan or subdivision review process. Obviously, this is not long-range planning and could bring about some very unpleasant surprises. By the Borough's action in embarking upon this long-range planning process, it is quite clear that it is not the intent of the Borough to include this choice as a viable alternative.

2. Non-Residential Potential

- **Introduction**

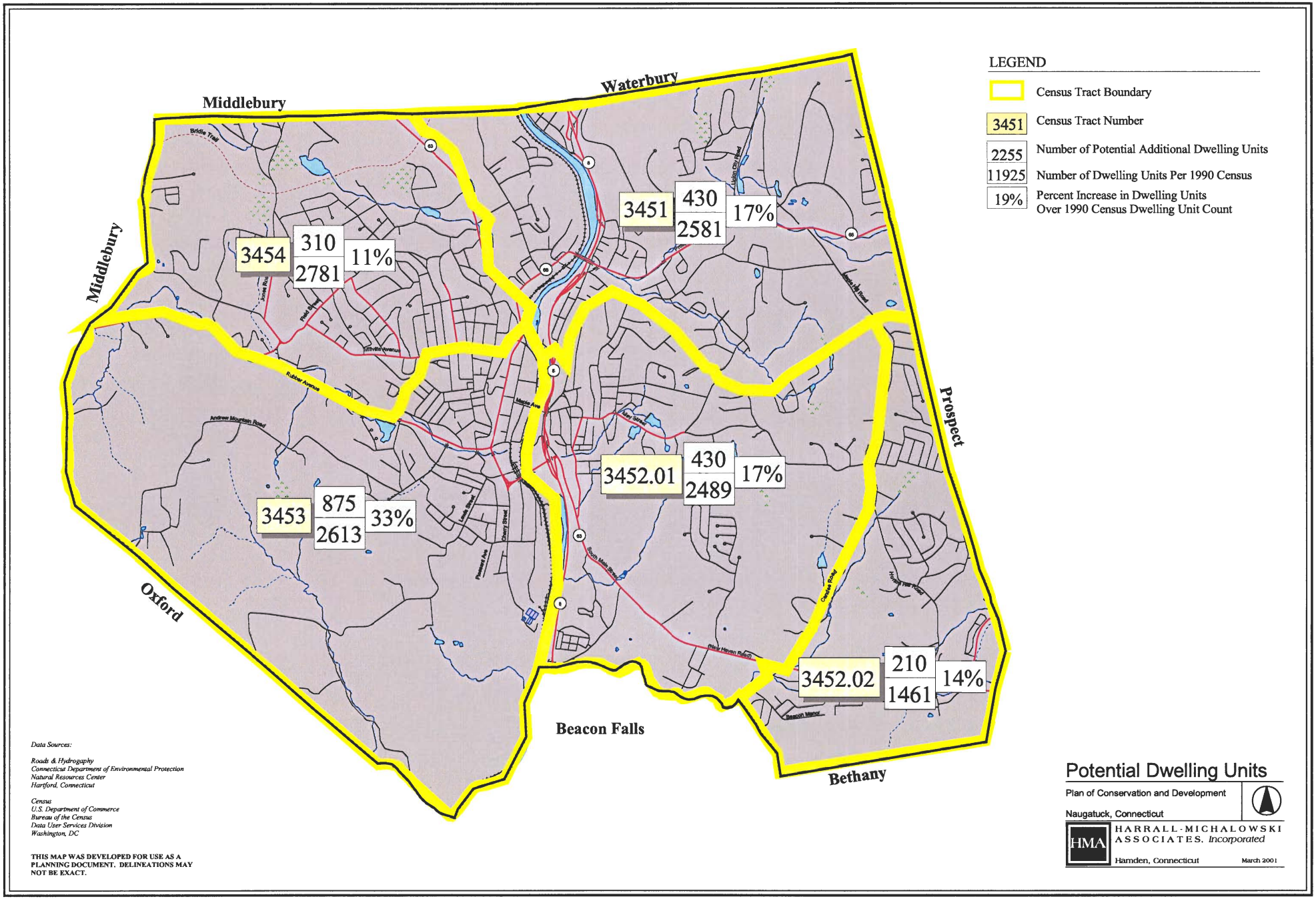
Commercial and industrial development greatly influences the character and welfare of a community. While market factors are the primary determinant of the amount of growth which takes place regionally, the planning process can influence the amount of regional growth that an individual community is likely to attract and the standards it requires.

What follows is an analysis of the Borough's non-residential development potential. Like the Residential development potential analysis there are three important variables to consider: (1) the total amount of vacant land (2) the significant physical constraints of the land and (3) the zoning restrictions placed on that land. The accuracy of these variables plays an important role in developing realistic projections. To identify these variables, current zoning information was acquired from the Borough and the Central Naugatuck Valley Council of Governments. In addition, a vacant land analysis was conducted to identify large undeveloped areas of the Borough. By putting these variables together and interpreting the results, we can begin to quantify the non-residential development potential within the Borough.

- **Non-Residential Vacant Land Development Potential**

Of the approximately 3170 acres of vacant land available to the Borough approximately 435 acres are available for non-residential use.[1] This figure includes

[1] See Vacant Residential Land Analysis for methodology used to calculate vacant land areas


Waterbury
Middlebury
Middlebury
Prospect
Oxford
Beacon Falls
Bethany
3454
310
2781
11%
3451
430
2581
17%
3453
875
2613
33%
3452.01
430
2489
17%
3452.02
210
1461
14%
LEGEND
Census Tract Boundary
3451 Census Tract Number
2255 Number of Potential Additional Dwelling Units
11925 Number of Dwelling Units Per 1990 Census
19% Percent Increase in Dwelling Units Over 1990 Census Dwelling Unit Count
Data Sources:
Roads & Hydrography
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut
Census
U.S. Department of Commerce
Bureau of the Census
Data User Services Division
Washington, DC
THIS MAP WAS DEVELOPED FOR USE AS A PLANNING DOCUMENT. DELINEATIONS MAY NOT BE EXACT.
Potential Dwelling Units
Plan of Conservation and Development
Naugatuck, Connecticut
HMA
HARRALL-MICHALOWSKI ASSOCIATES, Incorporated
Hamden, Connecticut
March 2001

170 acres zoned PDD (Planned Development District). It is important to note that while some PDD areas are designed for residential use, all the PDD areas identified in this analysis as vacant are zoned commercial or industrial. It is also important to note that this figure includes approximately 50 acres located within the Regional Shopping Center District. Currently a project planning process is underway with the City of Waterbury to change the use of this special district to a commerce park. Because, this program is still in the planning phases, no specific land uses are available at this time. It is, however, expected that this area will function as an extension to the existing industrial park.

In addition to assessing the undeveloped land area via aerial photograph interpretation, field work identified two additional vacant parcels. These include the flea market area located at the corner of New Haven Road and Horton Hill Road, and the rock quarry area (which is currently for sale) located off New Haven Road, east of Candee Road. These areas are zoned B-2 and the acreage of the areas are reflected in the following tables.

Table 26
Vacant Land Zoned for Non-Residential Use

Zone Boundary	Approximate Acreage of Vacant Land Within Each Zone
B-2	45
I-1	5
I-2	165
PDD	170
RSC	50
TOTAL	**435**

In order to account for some of the physical constraints that would affect the development potential, the areas of steep slopes, wetlands and flood hazard zones were removed resulting in the area of buildable vacant non-residential land.

Table 27 Buildable Vacant Land Zoned for Non-Residential Use	
Zone Boundary	Approximate Acreage of Buildable Vacant Land Within Each Zone
B-2	25
I-1	0
I-2	60
PDD	100
RSC	35
TOTAL	**220**

After subtracting out land with significant physical development constraints, there are about 220 vacant acres in non-residential zones that may have development potential, providing other concerns, such as access, can be satisfied. In order to express potential non-residential development in terms of floor area, as is customary, some additional assumptions must be made. Generally, industrial development tends to have a floor area ratio (total floor area divided by total land area) in the range of 0.15 to 0.20. Office development frequently has a floor area ratio (FAR) of 0.25 to 0.30 with two stories. Retail development, usually on one level, can generally achieve a FAR of 0.20 to 0.25. Higher FAR's, for the most part, require multiple stories and structured parking and is usually cost prohibitive except in urban or very high land value situations. Using an overall average FAR in the range of 0.20, the 220 acres of buildable vacant land could possible support approximately 1.9 million square feet of additional industrial/commercial floor area. These figures are illustrated by zone in Table 28.

Table 28 Potential Additional Floor Area By Zone	
Zone Boundary	Potential Floor Area (sq. ft.)
B-2	218,000
I-1	0
I-2	523,000
PDD	871,000
RSC	305,000*
TOTAL	**1,917,000**

It should be pointed out that these estimates are based on assumptions that are reasonable on a broad-base scale, but that would vary considerably on a site by site basis. Therefore, the preceding table represents neither a guarantee of land capability, nor does it necessarily represent the maximum that could be built. Whereas steep slopes, floodplains and wetlands are relatively fixed variables, a town's willingness to see such land used for development can change resulting in more acreage opened and the development potential increased. The greatest variable in this equation is in the areas containing steep slopes. Whereas the current zoning regulations use a 30% slope standard to calculate buildable area, we used a more conservative 15% slope threshold. Conversely, additional constraints can be imposed, such as aquifer protection regulations. In sum, the development potential totals given here are theoretical and are subject to change.

It is also important to point out that the estimates contained herein do not take into account market demand or other locational factors. The purpose of the analysis is to estimate the potential development under existing zoning, which can then be compared with other factors such as the capacity of the Borough to serve this level of development with utilities, public services and accommodations for traffic. It will be helpful in addressing the impacts, both favorable and otherwise, for the Borough to determine whether it would prefer to increase, decrease, or maintain the proportion of land devoted to economic development, and the densities and other standards it would like to encourage.

* This is the area currently under study as part of the Waterbury – Naugatuck Commerce Park Project. More specific estimates of potential development levels will be available in the future.

- **Under-utilized Land**

The term under-utilized is used for land that could be further developed for non-residential use. While this figure is often difficult to quantify, some assessment can be made of under-utilized land based on existing land use patterns.

As a component to the vacant land analysis, the New Haven Road and Rubber Avenue commercial corridors were assessed by a windshield survey and noting the development patterns and densities. This survey illustrated that the Rubber Avenue commercial corridor currently is developed at a density that would support very little re-use of existing commercial property at significantly higher densities in the future. The New Haven Road commercial corridor, while less dense then Rubber Avenue, has a similar situation in which the development density would appear to support very little re-use of existing commercial development at greater densities. (The possible exception to this would be if any of the property adjacent to the current Wal-Mart site were available for other commercial development. We are currently looking into that possible scenario.) Therefore our conclusion is that under-utilized land in these corridors has a negligible affect on the Borough's development potential.

B. Infrastructure and Community Facility Needs

1. Introduction

Based upon the analysis of existing conditions, discussions with various Borough departments and community dialogue, several infrastructure and community facility needs were identified as appropriate for attention during the next 10 years. These needs are summarized by subject area in the following sections.

2. Road Network

- **Roadway Improvements and Safety Enhancements**

The 1973 Plan of Development recommends several streets for construction and/or reconstruction. Excepting several locally initiated spot drainage improvement projects or developer funded off-site roadway improvement projects as required to support their specific projects, the Borough of Naugatuck has not actively or aggressively pursued State and/or Federally funded ISTEA or TEA-21 improvement projects. This has been attributed to the following: The Borough's financial position and its inability to provide the local match, the always present lack of political support, especially when it comes to the acquisition of land to build the proposed improvements and equally important: the absence of "professional staff" which is needed to direct the projects through the State's administrative process.

As part of the planning process, a number of locations, roadway segments and/or intersections were identified as areas that needed some type of improvements. In a non-prioritized format they are listed below.

TABLE 29
SUGGESTED ROADWAY IMPROVEMENTS

LOCATION		REPORTED PROBLEM	SUGGESTED IMPROVEMENT
A	Cross St between Rte 63 and Rte 8	Steep, winding and narrow roadway with poor sightlines and limited drainage.	Requires the complete reconstruction of almost 3,500 l.f. of road. Earlier proposals identified the need to acquire property.
B	Rubber Avenue between Cherry St and Andrew Ave	Variable and non-uniform pavement width, lack of uniform lane treatment and multiple curb cuts.	Conduct an in-depth corridor/access management study to evaluate potential for creating uniform pavement width and consolidating the number of curb cuts.
C	Field St between Rubber Ave and Jones Rd	Roadways lack good drainage system, along with severely restricted sightlines at the Field/ Jones interseetion.	Construct roadway improvements to include cutting back embankments and installing new pavement with closed drainage system.
D	Jones Road at Allerton Rd and Heritage Dr	Narrow pavement and severely restricted sightlines.	Reduce roadway approach grades and cut back embankment to provide adequate sightlines.
E	Maple Hill Rd between Wooster St and May St	Road lacks uniform pavement section and storm drainage.	Reconstruct and widen road to create uniform pavement section with new storm drainage system.
F	May St at Donovan Rd and City Hill Rd	Very confusing geometry with very narrow lanes and extremely poor sightlines.	Entire intersection will require reconstruction. Property acquisition is possible in order to achieve necessary improvements.
G	Horton Hill Rd between Bear Paw Rd and Red Robin Rd	Roadway pavement narrow due to ledge outcropping along both sides.	Reconstruct approximately 800 feet of Horton Hill. Widen pavement by removing ledge.
H	Oak St at Maple St, Central Ave and Hill St	Very confusing intersection, perpetually dark due to Route 8 (above); on-street parking reduces effective pavement width.	Underpass could use high intensity lighting, new traffic signal controls, consider one-way of streets and general streetscape improvements.
I	Osborn Rd between Davin Dr and Route 63	Very steep and narrow road. No sidewalks and no drainage.	Roadway requires complete reconstruction along with new sidewalks (one-side) and a new closed drainage system.
J	Rubber Avenue	Prone to flooding	Improve drainage system

There are also several streets where fire ladder trucks cannot enter due to either steep grades or the narrowness of the road. These include: Aetna Place; Bosco Drive; Highland Circle; Hughes Street; Joseph Road; Mitchell Street and Theresa Street.

The above list is fairly extensive and generally indicative of the long-standing and currently unaddressed need to more effectively develop and implement roadway standards that work with rather than ignore the underlying rolling topography of

the Borough. While its clear that neither planning nor engineering can regulate or alter the Borough's topography, it is absolutely essential that any future development on steep slopes be reviewed with an extra level of attention to ensure that those new developments are not burdened by the same type of problems brought about by past development(s).

- **Alternative Modes of Transportation**

While planning studies must by their very nature look at and consider other alternatives to the private automobile, they also must recognize, acknowledge and accept the reality that there is no end in sight to the public's love of the automobile and the freedom that we enjoy when we get into our own private motor vehicle. Our travel times, speeds, route and intermediate stops are our own choices and it doesn't appear likely that there will be any compelling reason to alter our preferred mode of travel in the foreseeable future. This however is not to say that there are no alternatives, but rather those alternatives, even if pursued aggressively, would in all likelihood have essentially no impact on significantly reducing the current or projected future traffic volumes.

The following is a history of some of those "alternatives" and their potential impact (if any) on the Borough's transportation and traffic circulation system.

Bus - Due to the relatively low density of the Borough, regularly scheduled bus service does not appear financially viable. In fact of the municipalities in the Waterbury Transit District, even with service reductions and scheduling adjustments, it now appears that the few remaining routes in Naugatuck may be terminated.

Rail - Even with the presence of a newly renovated station on the Waterbury branch line, ridership continues to decline. Long term prospects to an increase in ridership appear unlikely.

Van Pooling - These programs offer limited rider appeal, and appear to be unlikely strategies for reducing vehicular commuter traffic.

Naugatuck River - The use of the river for any non-recreational use is extremely unlikely.

Air Travel - The proximity of the Oxford Airport, in adjacent Oxford could provide some reductions for high end corporate travel. The use of the airport for scheduled travel, remains problematic.

Biking/Walking - While probably very desirable from a recreation standpoint, especially the "Naugatuck River Walkway System", there does not (at the present time) appear to be any direct correlation to reducing motor vehicle traffic volumes.

Public policy decisions within the responsibility of the Borough that might lead to increased use of alternative modes of transportation are limited. However, the Borough should be prepared to seriously consider actions which might support such increased use if and when opportunities arise. For example mixed use development which reduces the reliance on use of the automobile should be encouraged.

3. Sanitary Sewers

It should be expected that periodic maintenance and repair of the existing wastewater collection system will be required. According to the Borough's Wastewater Collection System Operation and Maintenance Manual (Water Pollution Control Board, 1997), specific sections of the collection system are recommended to receive routine maintenance every 6 months. In addition, specific sections are recommended to be replaced, repaired and/or lined. These sections are listed in chapter 4 of the manual. Whereas some of the problem areas may have already been addressed, it is our recommendation that all problem areas and repair recommendations identified in the Borough's Wastewater Collection System Operations and Maintenance Manual be reviewed on a regular basis and a maintenance and repair strategy followed to address identified problems on a priority basis. Furthermore, the Planning and Zoning Commissions should refer all significant development proposals and zone changes to the Water Pollution Control Board for advice as to impact on the collection system.

In 1991, the Borough had a wastewater facility report conducted, which outlined potential future sewered areas. These areas are illustrated on the Sewer Service Area Map. What is important to emphasize when considering extending sewers into unsewered areas are the impacts that will inevitably occur on the development patterns and densities within the Borough. With this in mind, it is our recommendation that any consideration of sewer expansion be consistent with the development patterns and densities recommended in the land use plan section of the Plan of Conservation and Development.

4. Fire Protection Facilities

There are two fire stations in Naugatuck. One station is located on Maple Avenue in the downtown area, and the other located on May Street on the east side of the Naugatuck River. The Fire Department has raised concerns about supplying adequate fire protection to existing and potential new development, particularly in the northwest and southeast portions of the Borough. The response time to developments in these areas due to the proximity to the existing fire stations is a primary concern. In addition, the water pressure in some areas, particularly around the perimeter of the Borough, has been identified as a problem. These areas exhibit low-pressure situations compounding the difficulty in providing proper adequate fire protection.

As described in the Development Potential section, the northwest and southeast portion of the Borough, especially around the Osborn Road area, have been experiencing a significant increase in residential development over the past 10 years. In addition, the southeast portion of the Borough has high potential for future new development. While the Fire Department is currently working with the Connecticut Water Company in assessing the low water pressure conditions, consideration should be placed on how to ensure a level of service sufficient to

provide adequate fire protection to the entire Borough. These considerations may include a new fire station or improved fire access to existing developments.

Public Water Supply

- **Water Supply**

While Connecticut Water Company (CWC) estimates indicate an adequate water supply in the years to come, it is good planning to consider supply alternatives in case a need should arise. As a part of the 1994 Water Supply Plan, CWC conducted an assessment of alternatives for future water supply for the Naugatuck system as well as estimated 5 and 20-year projections for expansion of the existing service area. The supply alternatives are listed in Table 30 below and the potential 5 and 20-year service areas are illustrated on the Public Water Supply Map.

Table 30
Water Supply Alternatives[1]

Source Type	Description
Groundwater	Masshaddock Well Site
Groundwater	Fulling Mill Site
Groundwater	Fulling Mill Site
Surface Water	Prospect Reservoir
Surface Water	Waterbury Reservoir
Other	Interconnection with the city of Waterbury
Other	Interconnection with the Regional Water Authority in Cheshire

According to the Connecticut Water Company's 1994 Water Supply Plan, the 5 year planning horizon includes areas where development projects are in various stages of active planning and other areas where system improvements within the next 5 years are anticipated by the water company. The 20 year planning horizon includes areas where development projects are highly speculative at this time, but are considered to have a reasonable chance of occurring over the long term. Also, included within the 20 year horizon are most major commercially and industrially zoned areas. Such areas generally required public water service to allow development to proceed. Rural, undeveloped areas are also included within the 20 year service area.

It should be noted that there are no guarantees that extensions within these service areas will be made by the water company. Such decisions are made based upon the determination of economic feasibility.

- **Source Protection Measures**

Public water supply watersheds can be defined as the total land area that drains to an active reservoir system. Due to the fact that water always drains down hill, these delineations are based simply on surface topography. Aquifers, on the other hand, are defined by the underground hydrologic environment and may not follow watershed

[1] Connecticut Water Company, Water Supply Plan, Naugatuck Central System, July 1994.

boundaries but can actually *cross* watershed boundaries. The area of contribution and recharge of these underground systems can only be accurately defined by a professional hydrologist. Due to the differences in these public water supply resources, they are subject to their own set of source protection measures as discussed below.

Ensuring water quality for the citizens of Naugatuck is as important as ensuring water quantity. Currently, all surface water supply sources that serve the Borough are classified AA, the highest water quality classification set by the Connecticut Department of Environmental Protection's (DEP) Water Quality Standards (1997). Maintaining these classifications is of utmost importance and can only be done by protecting the sources from potential contaminating land uses and activities.

Public Act 85-279 "An Act Concerning the Protection of Public Water Supplies" (codified in CGS §8-2(a)) requires, rather than allows, municipal planning and zoning commissions to consider protection of existing and potential public surface and groundwater supplies in their plans and regulations. In the Water Supply Plan for the Naugatuck Central System, CWC outlines local land use controls applicable to source protection for the Naugatuck region. These recommendations include establishing a watershed management program and supporting regulations for watersheds contributing to a public water supply reservoir. While CWC provides watershed protection to a degree by owning the land directly adjacent to its reservoirs, there is a considerable amount of land that drains to these sources not owned by the water company (Table 31). It is recommended here that these public water supply watersheds receive special attention to ensure contaminating land uses and activities are properly managed so potential contamination to drinking water sources is minimized. This should include consideration of stream buffers and regulations minimizing the use of impervious surfaces in these areas. The Borough is encouraged to implement these and other watershed controls per DEP's Watershed Handbook. The Public Water Supply Map presented earlier illustrates the location of the public water supply watershed areas.

Table 31
CWC Owned Land - Naugatuck Central System

Reservoir	Approximate Watershed Owned (Acres)	Total Watershed Area (Acres)	Percent of Watershed Owned (%)
Long Hill	993	1,581	63
Twitchell	35	44	90
Moody	586	1,043	56
Straitsville	57	77	74
Mulberry	253	410	62
Upper Candee	13	128	10
Lower Candee	59	159	37

Like the surface water supplies in the Naugatuck region, the quality of the groundwater resources (aquifers) is excellent and provides an abundant water supply. The DEP classifies these resources as GAA or "existing or potential public water supply suitable for drinking without treatment." Due to the importance of these public water supplies, in 1993 the Connecticut State Legislature promulgated an Act designed to protect against contamination of these groundwater resources (codified in CGS §22a-354). The Act requires that all well fields and its corresponding recharge area servicing more then 1000 people are mapped. An existing board or agency be designated as the local Aquifer Protection Agency and comprehensive land use regulations be adopted. The DEP is in the process of creating a Model Municipal Ordinance to assist towns in adopting the required land use regulations.

Two aquifer protection areas within the Borough have been mapped at different levels of detail. As part of the Aquifer Protection Program, The DEP requires all towns with public water supply wells meeting the criteria above to:

- Prepare general (Level B) maps of the areas of contribution and recharge areas for all wells in stratified drift aquifer areas. This includes proposed wells identified in approved utility Water Supply Plans.

- Prepare detailed (Level A) maps of the area of contribution and recharge areas for all wells in stratified drift aquifer areas no later then 3 years after the adoption by DEP of regulation standards. This includes proposed wells identified in approved utility Water Supply Plans.

Of the two aquifer protection areas within the Borough, the Marks Brook Well Field located in the Beacon Manor Brook watershed has been mapped at the more detailed level A standard. The Indian Fields aquifer protection area located in the Fulling Mill Brook watershed (along the prospect border) has been mapped to the more general level B standard. In anticipation of the impending State mandates, Naugatuck should establish a local aquifer protection program, delineating all local aquifers and carefully describing hazards to be avoided in and around its well fields.

6. Private Water Supply

In addition to protecting public water supply, the Borough is encouraged to make efforts to minimize contamination of private homeowner wells. This should include buffering contaminating land uses from well sites and encouraging residents to follow the Naugatuck Valley Health District's (NVHD) recommendations of annual well testing for bacteria and other contaminants. In addition, according to NVHD, well integrity is very important to keeping a sanitary well and safe drinking water. It is recommended that the Borough ensure that all wells extend above grade. If a well is below grade, its likely that contamination could occur without the homeowner knowing that there is a problem. As appropriate, the Borough might consider requiring larger lot sizes in specific areas to further protect wells and the water supply feeding those wells.

7. Storm Water Management

In addition to the localized drainage improvements listed in Table 29 as part of road network improvements, the Borough should manage storm water management from new development using best practices. Particular emphasis should be placed on protecting water quality from non-point source pollution as part of this management effort.

8. Other Community Facilities

During discussion of community facility issues, the location and adequacy of the Public Works Garage on Rubber Avenue was often raised as an issue. A special committee has been established to address this issue.

III. PROPOSED LAND USE PLAN AND SUPPORTING FACILITIES

A. Residential Use Areas

1. Housing Goals and Objectives

Housing is the predominant land use in Naugatuck. The existing inventory is diverse in its design, its occupancy and its price level. This is a result of established planning goals set for housing in the 1973 Plan of Development and reiterated in the 1989 Update. The overall goal as stated is as follows:

> *"Insure that safe, sanitary and comfortable housing is available within the financial capabilities of every resident".*

This goal remains the guiding principle for residential land use planning in Naugatuck. The adopted Plan set certain objectives as the means to satisfy the housing goal. These objectives are summarized as follows:

> Encourage the rehabilitation and improvement of older and deficient residential structures, including programs for property rehabilitation, neighborhood conservation and code enforcement.
>
> Expand the housing supply to meet the diverse needs of continued growth, including the increased need for elderly housing.
>
> Manage the design of new subdivisions in outlying areas identified as "semi-rural" or "suburban" to limit maximum density, protect key natural features, include provision for open space, and assure a safe and healthy residential environment adequately served by sewer and water or appropriately designed to rely upon on-site utilities.

2. Residential Land Use Policies

The plan to achieve the residential goals and objective for the Borough of Naugatuck has been presented in terms of land use development standards for different types of neighborhoods. The prior plans have included standards for "Semi-Rural Residential", "Suburban Residential", "Urban Residential", "Suburban Multi-Family" and "Residential Center". The planning criteria for these residential types is set forth below:

Semi-Rural Residential:

Use:	Single family dwellings.
Density:	One or more acres per family.
Location:	Outlying areas with hilly terrain or lacking public facilities and watersheds.

Suburban Residential:

Use: Single family dwellings.
Density: 2 to 5 families per acre.
Location: Adjacent to existing urban development or in new single-family residential areas with public facilities generally available.

Urban Residential:

Use: Single and two family dwellings, garden apartments and townhouses.
Density: 6 to 16 families per acre.
Location: Older residential areas in the center of the Borough and along the Naugatuck River, with public facilities readily available.

Suburban Multi-Family:

Use: Garden apartments and townhouses.
Density: 5 to 15 families per acre.
Location: Scattered throughout suburban residential area, adjacent to or near major and secondary thoroughfares, with public facilities readily available.

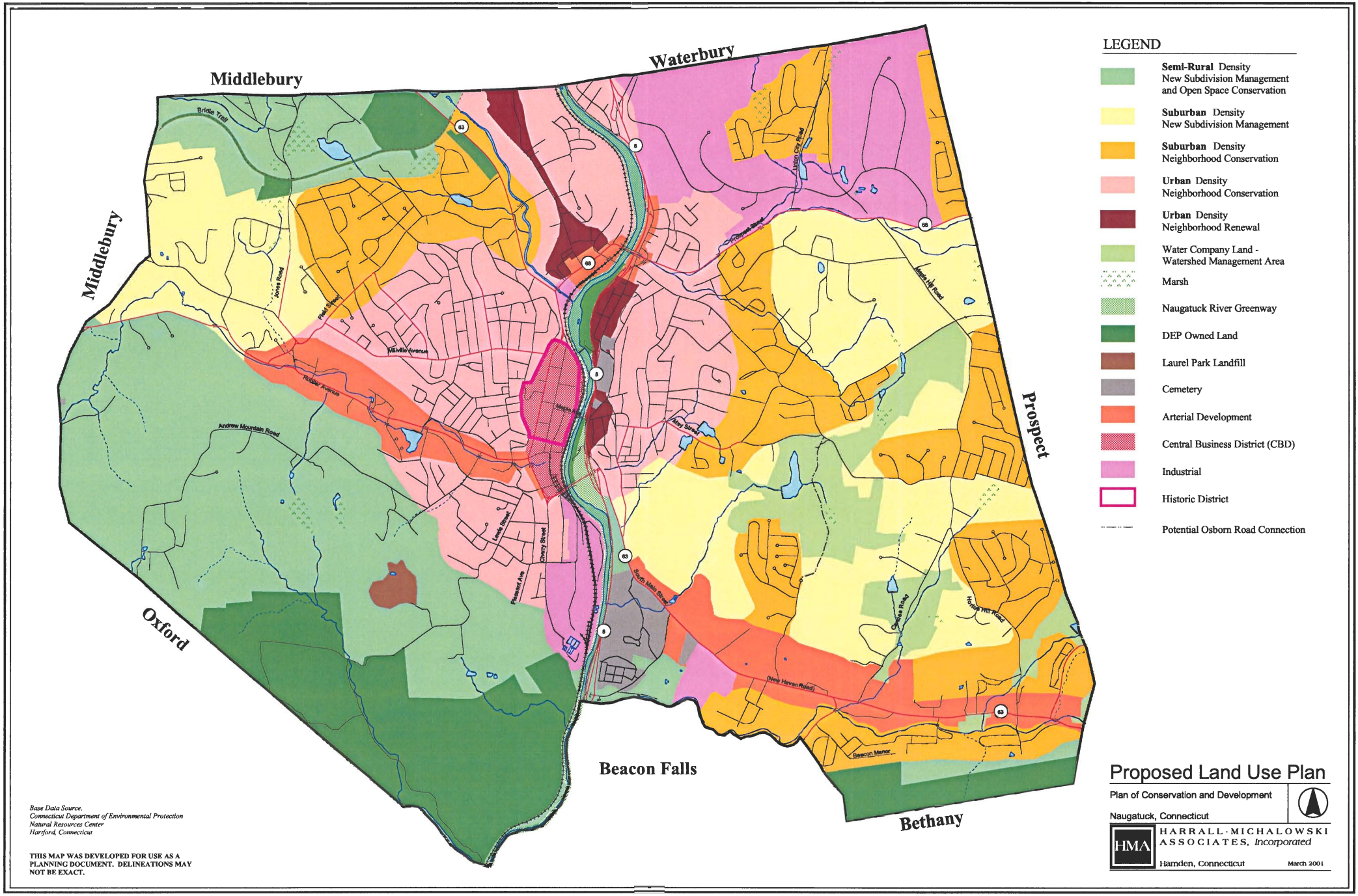
Residential Center:

Use: Townhouses, apartments, small retail stores and offices, and specialized personnel services.
Location: Selected sites surrounding the central business district with public facilities available.
Design: Compact, well designed area, maintained and owned as a unit, providing a full range of amenities, planned for pedestrians, self contained on-site parking and loading areas, extensive landscaping, attractive architecture, and providing a focal point for the planned residential area or neighborhood in which the center is located.

3. Residential Land Use Strategies

As part of the Updated Plan of Conservation and Development 2000, some modifications to these residential categories are proposed. The locations of three residential density areas (semi-rural, suburban and urban) are shown on the Proposed Land Use Plan. Within these areas densities of development are proposed based upon the availability of public sewer and water. In the establishment of these densities, the Planning Commission has been guided by the Land Use Intensity Guidelines contained in the Central Naugatuck Valley Regional Plan of Conservation and Development. These guidelines were developed based upon extensive planning analysis as part of the preparation of the Regional Plan.

The material presented in Tables 32 and 33 have been excerpted from the Regional Plan. Table 32 shows how natural resources, and the various ways that they interact, can be utilized to estimate constraints to development. Natural resources have been classified as to whether they pose minimal, moderate, severe, or prohibitive constraints to development. Conversely, these areas can be considered to present low, modest, important, or significant opportunities for natural resource conservation.



Base Data Source.
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

THIS MAP WAS DEVELOPED FOR USE AS A PLANNING DOCUMENT. DELINEATIONS MAY NOT BE EXACT.

Proposed Land Use Plan

Plan of Conservation and Development

Naugatuck, Connecticut

HARRALL-MICHALOWSKI ASSOCIATES, *Incorporated*

Hamden, Connecticut

March 2001

This type of analysis suggests areas where, in the absence of public water supply or public sewer service, land use intensities should be attuned to the natural capabilities of the land. In other words, it can be the starting point for zoning categories that consider soil types, terrain, and infrastructure capacity.

Table 32
Natural Resource Summary Table

Development Constraint	Conservation Opportunity	Definition	Resource Condition
Minimal	**Low**	Having only few or slight environmental constraints on development. Most difficult to conserve from development.	• Excessively drained soils • Well drained soils, less than 15% slopes.
Moderate	**Modest**	Having moderate or localized severe restrictions on development which may be overcome with environmental planning and mitigation. Difficult to conserve from development	• Well drained soils, 15- 25% slopes. • Well drained soils, high seasonal water table. • Hardpan soils, less than 15% slopes. • Shallow or rocky soils, less than 15% slopes.
Severe	**Important**	Having some severe or very severe limitation on development which may be difficult to overcome with environmental planning and mitigation. Present many opportunities to conserve important natural resources and functions.	• Any soils with slopes in excess of 25%. • Shallow or rocky soils, 15 to 25% slopes. • Hardpan soils, 15 to 25% slopes. • Hardpan soils, high seasonal water table. • Floodplain (500-year, 0.2% probability).
Prohibitive	**Significant**	Having only severe or very severe limitations on development. Represent areas where it is most important to conserve natural resources and functions.	• Watercourses and waterbodies • Poorly drained soils (wetlands) • Floodplain (100-year, 1.0% probability.

Source: Central Naugatuck Valley Regional Plan of Conservation and Development.

While the above resources influence development patterns and densities, development can also adversely impact sensitive natural resources. Consideration should be given to the impacts of land uses on public water supply watersheds, areas of high groundwater availability, areas of excessively drained soils (all potentially subject to contamination). Natural diversity areas (endangered species, unique habitats) should also be protected from adverse impacts by development activities. Throughout the public hearing process on this Plan, particular concern has been expressed as to the importance of protecting groundwater supplies.

The Regional Plan went on to recommend development intensities based on constraint levels and availability of water and sewer. Table 33 presents these recommended intensities.

Table 33
Recommended Land Use Intensity Ranges

Private Septic Systems

	Maximum Density (units/acre)		Minimum Lot Size (acres)	
Constraint Level	**Private Well**	**Public Water**	**Private Well**	**Public Water**
Minimal	1.0	1.33	1.0	.75
Moderate	0.67	1.0	1.5	1.0
Severe	0.5	0.67	2.0	1.5
Prohibitive	*	*	*	*

* No Development is recommended in areas of prohibitive constraints.

Public Sewer Systems

	Minimum Density (units/acre)		Maximum Lot Size (acres)	
Constraint Level	**Private Well**	**Public Water**	**Private Well**	**Public Water**
Minimal	1.33	2.0	0.75	0.5
Moderate	1.33	2.0	0.75	0.5
Severe	0.67	1.0	1.5	1.0
Prohibitive	*	*	*	*

Source: Central Naugatuck Valley Regional Plan of Conservation and Development

Proposed Land Use Densities

In its review of the Regional Plan as well as through input received as part of the preparation of the Plan of Conservation and Development – 2000, the Commission has developed varying land use densities based upon the availability of public sewers and water as well as other considerations such as natural resources, topography and infrastructure. Of particular concern are issues of groundwater protection and on-site water supply where such resources might be adversely impacted by development.
Where such groundwater issues are identified, the Commission recommends that professionally prepared analysis be submitted as part of the application process. It should be noted that the Commission has not established any guidelines or standards related to minimum density as suggested in the Regional Plan. All land use densities as described below are expressed as minimum lot sizes.

Semi-Rural:
When there is no public water and sewer a minimum lot size of 1.5 acres per dwelling unit is recommended. When there is public water and private septic a minimum lot size of 1 acre per dwelling unit is recommended.

Suburban Density:
When there is public sewer and private well a minimum lot size of one acre per dwelling unit is recommended. When there is public sewer and public water a minimum lot size .75 acres per dwelling unit is recommended.

Urban Density:
When there is public sewer and water a minimum lot size of 5,000 square feet per dwelling unit is recommended. Within the CBD portion of the Urban Density area as shown on the Land Use Plan, a minimum lot size of 5,000 square feet with 2,500 square feet for each additional dwelling unit is recommended.

There are three components to the housing strategy for the Borough of Naugatuck within these land use densities. The first component addresses undeveloped vacant lands in the outlying areas of the Borough. The second component recognizes the needs of established neighborhoods in good condition and the third component addresses older neighborhoods in deteriorating condition. The three approaches are "New Subdivision Management", "Neighborhood Conservation" and "Neighborhood Renewal" and are shown on the Proposed Land Use Plan.

- **New Subdivision Management**

  Most vacant land remaining for future subdivision at a major scale is located on the east or west edges of Naugatuck. Terrain in these areas is generally hilly and often constrained by steep slopes, wetlands or the presence of watershed properties serving public water supplies.

  It is proposed that in locations identified on the Land Use Plan as "Semi-Rural" for new subdivisions be restricted to lots of one and a half acres or larger. In the limited areas where public water is available, lots may be one acre.

  In those remaining vacant areas designated as "Suburban Residential" on the Land Use Plan, new subdivisions should be restricted to lots of three-quarters of an acre or larger and these lots should be served by public sewer and public water and one acre where such public services are not available. New subdivisions in suburban locations should also be designed to include a sidewalk along one side of new streets.

  In reviewing the proposed subdivision plans for properties in Semi-Rural and Suburban Residential locations, the Planning Commission should begin by identifying key natural features, views or open space linkage possibilities of the property and require the design to be developed around the conservation of such key features.

- **Neighborhood Conservation**

Naugatuck has numerous existing residential neighborhoods including single family homes, apartment and condominium complexes, and 2 - 4 family dwellings. For the most part, these neighborhoods are attractive residential areas. The conservation of this neighborhood appeal is important to the community well-being.

In these areas the land use strategy should be to assure proper enforcement of established land use codes and ordinances. Modifications and additions to existing residences should conform to standard so as not to detract from the neighborhood character. Infill development on vacant sites in these neighborhoods should be managed to assure compatibility with established uses, design, density and traffic capacity.

Municipal maintenance and beautification of the public lands, buildings and infrastructure in these neighborhoods should enhance their appearance and set a good example for private property owners. In areas of urban density where there are no established sidewalks, consideration should be given to installing walks along key pedestrian routes.

- **Neighborhood Renewal**

There are a few areas within the Borough where the housing stock is below standard and where the mix of activities presents some conflict between the uses. Sometimes these are also older neighborhoods in which the public infrastructure is no longer adequate for the density and character of use.

These areas require municipal attention and assistance beyond the normal level of public service. Programs such as the HUD Small Cities Block Grant Program have been used by the Borough to encourage housing rehabilitation in some of these neighborhoods. These types of incentives and assistance will need to be maintained in these areas and a broader program of municipal action may become desirable. Such programs could include property acquisition, clearance and redevelopment, street widening and sidewalk installation, or expansion of existing public facilities to create a greater presence and beneficial impact.

B. Non-Residential Use Areas

The non-residential areas of the Borough with the exception of open space and community facility areas are the portions of the community where economic development currently occurs and/or will in the future.

1. Economic Development Goals and Objectives

The Borough of Naugatuck's Planning Commission adopted an economic development goal in the 1973 Plan of Development which remains relevant today.

> *"Achieve a planned growth of business, commercial and industrial development that will strengthen the Borough's tax base and increase employment opportunities".*

This basic goal for economic development was confirmed in the 1989 update to the Plan of Development. As a guiding principal it is included again in this 1999 update.

The objectives associated with this goal have also remained generally consistent through the years and are summarized as follows:

- Promote industrial and business expansion through the development of modern industrial parks.
- Improve the older established industrial areas to enhance their economic viability and to improve their appearance.
- Maintain the Central Business District as a mixed use - retail, service, office, government and cultural - center of the Borough of Naugatuck and promote intensified development of CBD properties, combined with improvements to the downtown appearance and convenience.
- Encourage business and commercial development in the selected areas to help provide a stable economic base and improve the appearance of established commercial strips.

2. Land Use Policies for Economic Development

The Plan to achieve these goals and objectives has historically been set forth in the establishment of certain land use standards for areas designated for economic development uses. The guidelines for "Central Business", "Neighborhood Commercial", "Arterial Commercial", "General Industrial" and "Industrial Park". These standards are not as detailed as zoning requirements, but general guidelines for the scale and location appropriate to specific uses. The land use planning criteria for economic development are described below. The "Restricted Commercial and Office" included in prior plans has been removed. These types of uses exclusive of retail can probably be included with the industrial park areas.

Central Business:

Use: Retail stores, offices, specialized personal services, medical and professional offices and apartments in the Retail Core; and offices, apartments, townhouses, semi-public and institutional uses in the office-residential-institutional area.

Area: Minimum of 5,000 square feet for individual lots.

Density: Maximum of 40 families per acre.

Design: Intense development with high percentage of lot coverage, minimal building setbacks, adequate pedestrian circulation and centralized parking. The Retail Core should also function as a Planned and Neighborhood Commercial area.

Location: Center of Borough.

Neighborhood Commercial:

Use: Small (under 4,000 square feet) retail stores, limited office and personal services.

Area: Maximum of 3 acres, with a minimum of 20,000 square feet for individual lots.

Design: Maximum lot coverage of 20 to 30 percent, building setbacks equal to those required for adjoining residential areas but not less than 30 feet, on-site or self contained parking and loading areas, extensive landscaping, and architecture compatible with adjoining residential areas.

Location: Along major or secondary thoroughfares, easily accessible to a trade area with a minimum population of 3,000.

Arterial Commercial:

Use: General commercial, including retail, service and restaurants also highway oriented establishments, automotive sales and services.

Area: Minimum of 20,000 square feet for individual lots.

Design: Maximum lot coverage of 20 to 30 percent, ample building setbacks, on-site parking and loading areas, landscaping, and minimized traffic congestion, with provision for access management.

Location: Existing commercial development along one or both sides of a major thoroughfare, focus along Rubber Avenue, Bridgeport Street and New Haven Road.

General Industrial:

Use: Manufacturing, warehousing, offices, research facilities.

Area: Minimum of 40,000 to 80,000 square feet for individual lots.

Design: Maximum lot coverage of 30 to 40 percent, substantial building setbacks, on-site parking and loading areas, extensive landscaping and adequate area for future on-site expansion.

Location: Select, outlying areas along major thoroughfares.

Industrial Park:

Use: Manufacturing, warehousing, offices, research facilities, business service.

Area: Minimum of 40,000 to 80,000 square feet for individual lots.

Design: Maximum lot coverage of 30 to 40 percent, substantial building setbacks, on-site and loading areas, extensive landscaping and adequate area for future on-site expansion.

Location: Select, outlying areas along major thoroughfares.

3. Land Use Strategies for Economic Development

The locations for commercial and industrial development are illustrated on the Proposed Land Use Plan in three categories: Industrial; Arterial Development; and Central Business District. This section discusses the development strategy associated with these designations and addresses the implementation of an economic development strategy that goes beyond the land use mapping of prior plans. This strategy is shown on the Economic Development Strategy Map.

- **Industrial Development Strategy**

The industrial use area should be expanded to include other properties between the existing Naugatuck Industrial Park and the Waterbury City line. State Department of Economic and Community Development programs should be utilized to extend roadway and utility infrastructure to this area and development standards should be consistent with established design in the existing park. There remains several undeveloped sites within the existing Naugatuck Industrial Park. The Borough's industrial development strategy should include the continued marketing of these sites to prospective users.

While the industrial parks have become home to many businesses important to the Naugatuck economy, major employers continue to be located in older established industrial districts. These employers include Uniroyal, Peter Paul, General Data Comm, Naugatuck Glass and Risdon. Studies should be undertaken in cooperation with these major employers to determine whether land use, traffic or infrastructure improvements are required to assure that these remain viable competitive locations from which to operate.

One area for which future use is proposed to be changed is an area on Rubber Avenue Extension near the Town Line. This area is currently zoned for industrial use and the portion north of Rubber Avenue Extension is designated as an Industrial Park area in the current Plan of Development. The Economic Development Strategy Map has removed this area from industrial use. The area south of Rubber Avenue has been designated as a Semi-Rural density area. However, the Commission believes that this area should not necessarily be developed for residential use. The unique character of the land in that area makes it a logical location for a public facility such as a school or park.

An important ingredient of the economic development strategy should be use of the benefits available to businesses located within the designated Enterprise Zone. The location of the Enterprise Zone is shown on the Economic Development Strategy Map.

- **Arterial Development Strategy**

Besides the Central Business District, which is addressed separately, Naugatuck presently has three commercial strip locations in various stages of development maturity. The oldest established commercial strip is Rubber Avenue with the Mountview Plaza as the principal anchor. More recently developed is the New Haven Road corridor with the Crosspoint Plaza and the Wal-Mart store as principal draws to that location. The most recently developed commercial strip is Bridge Street where former industrial facilities were redeveloped to create a site for the Big Y Shopping Center. In addition to these principal commercial strips, North Main Street in Union City is also a business location with a mix of convenience and auto service uses.

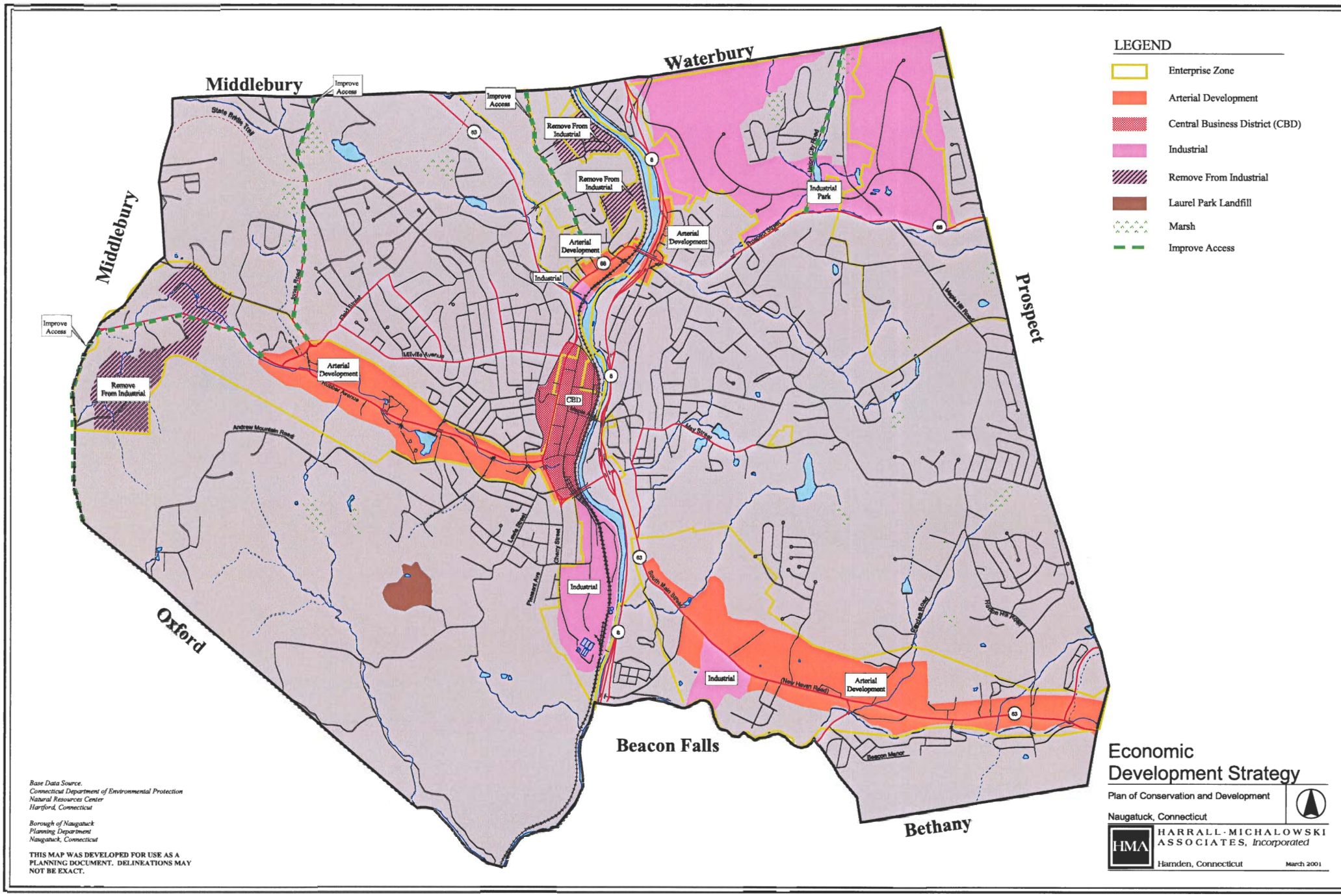
A notable feature of each of these locations is that, in addition to serving Naugatuck's local convenience shopping needs, they also draw customers into Naugatuck from the neighboring towns. The Stop and Shop and other stores at Mountview Plaza draw from parts of Middlebury, Oxford and Waterbury. The Big Y Plaza is drawing customers from Waterbury and Prospect. The Wal-Mart and Crosspoint's plazas draw from Bethany, Prospect and Beacon Falls. With this market area relationship in mind, a component of Naugatuck's economic development strategy should be to improve accessibility from the neighboring communities into these Naugatuck commercial areas.

A common problem along all of these commercial strips is that the existing lots were usually created for residential use or otherwise sized prior to establishment of modern retailing requirements. The mix of residential and commercial uses, the conversion of residences to commercial use and the numerous driveways to so many small parcels lends to a cluttered look and creates traffic congestion.

For land use planning and economic development strategy, each of these corridors - Rubber Avenue, Bridge Street and New Haven Road - is considered most suitable for commercial development. It should be anticipated that over the long run residences remaining along these streets will be converted or redeveloped for commercial use.

For each of these corridors, policies and programs should be developed for improved access management and land use control. One extreme for such a program could be a redevelopment project running along either side of these streets. Under the redevelopment project strategy, obsolete properties would be acquired, cleared, consolidated into larger parcels and then resold for commercial development with attached design, parking, landscaping and access restrictions.

A less aggressive approach would be an access management plan for each corridor. The plan might include provision to acquire easements for shared access or to acquire rights to close established driveways. The least aggressive strategy would be a review of site plan standards under the zoning code and adjustments as appropriate to improve existing conditions.



Base Data Source.
Connecticut Department of Environmental Protection
Natural Resources Center
Hartford, Connecticut

Borough of Naugatuck
Planning Department
Naugatuck, Connecticut

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Economic Development Strategy

Plan of Conservation and Development

Naugatuck, Connecticut

HARRALL-MICHALOWSKI ASSOCIATES, *Incorporated*

Hamden, Connecticut

March 2001

Along the Rubber Avenue corridor, should the Risdon industrial facility be vacated, consideration should be given to redevelopment and reuse for commercial activity. Commercial redevelopment would be consistent with the character of the corridor and a large scale retail project would bring another anchor to the street. A large retail facility would also generally be prepared to invest in necessary traffic improvements along the roadway.

On Bridge Street new commercial development similar in character to the Big Y plaza should be encouraged opposite the new plaza and on the south side of the street easterly to the bridge. There are numerous run down structures along Spring Street in this neighborhood and redevelopment of these dilapidated properties could be feasible for commercial reuse, but would probably require public subsidy for residential renewal. The redevelopment of lower Spring Street should include street widening to facilitate access to condo and apartment complexes up the street and from the Town Plot section of Waterbury.

The New Haven Road corridor is the commercial strip in Naugatuck which has the greatest potential for expansion due to availability of several large (over an acre) parcels along the road. Sites include the former drive-in, the Scinto property at Horton Hill, excess land at Wal-Mart and several smaller available properties. This location is convenient to the growing east side of Naugatuck, but more distant than the other commercial corridors from the intensive population of Waterbury, Middlebury and the west side of Naugatuck. While the area can draw from portions of Bethany, Beacon Falls and Prospect, these are not intensively developed areas at this time. Thus, while the land for development is available here, the consumer market support may not be as strong as at other locations and the land use mix may include wholesale/distribution facilities compatible with retail and service uses.

An area on the north side of New Haven Road has been designated on the Land Use Plan and Economic Development Strategy for potential economic development use. The uses proposed in this area should be transitional between the arterial commercial uses on New Haven Road and the residential areas to the north and east. A business park development using the PDD provisions of the zoning regulations would be an appropriate type of activity for this area. Any development in this area should be designed to permit a possible road connection to provide access to the Osborn Road area.

Along the New Haven Road corridor the zoning designations should be rationalized to be consistent with long term commercial development. Particular attention must be paid to access management, site planning and landscaping, including appropriate buffers and setbacks from residential areas.

- **Central Business District**

There have been several positive developments which have strengthened the economic viability of the Central Business District since the Plan was last updated in 1989. A new shopping plaza with Rite Aid and Advanced Auto Parts has been

constructed on Rubber Avenue and the south end of Church Street. At the north end of Church Street, a major new bank building was constructed by Naugatuck Valley Savings & Loan. Construction is underway on a new Central Post Office and the Borough has control of the remaining "Parcel C" site for additional new development. The smaller shops along Church Street are mostly occupied, with the principal vacancy being the store which Rite Aid vacated for its new facility.

The outstanding opportunity for downtown improvement which presents itself at this update is the development of lands along Maple Avenue between Route 8 and the Green. Land is available at Parcel C for new construction. This area can accommodate either additional economic development activities or sites for required municipal purposes. It appears that the General Data Comm parking lot is underutilized to the extent that a part, at the corner of Maple Avenue and Rubber Avenue, might be a development site for new construction. At both these sites, as development proceeds attention should be given to improving the appearance and pedestrian access along the river.

There are a couple of other possibilities for intensification of downtown development. One is redevelopment of uses in the vicinity of the Guerrera Trade depot. That use is an underutilization of a site in such close proximity to the downtown. Another opportunity might be to deck the parking lot between Church Street and Rubber Avenue and develop some additional building space above the parking.

These latter two opportunities probably require too great of an expense to "make ready" for new development to be feasible without municipal participation in some form.

The overall strategy for the downtown will be to continue to encourage new construction and more intense development on vacant and underutilized parcels. Municipal investments should be made in beautification and private investment in renovation of older spaces should be encouraged.

Municipal offices should be retained in the Central Business District. When space needs arise priority should be given to expansion and renovation of the existing Town Hall as opposed to relocation.

C. Open Space Plan

1. Open Space Goals and Objectives

The benefit of open space conservation was recognized in Naugatuck's previous Plans of Development. Those plans contained a goal which has become even more important as the community continues to grow

"Preserve important natural, physical, and historical resources".

There were several specific objectives incorporated into earlier plans to address this goal:

"Establish limitations on maximum density of development, reduce the density of development permitted in semi-rural areas, and encourage development innovations which result in larger percentages of open space".

"Preserve sufficient land, properly distributed as public open space with particular attention to protecting outstanding topographic and physical features".

The goal and subsequent objectives listed above are still relevant today and with proper implementation, can effectively act as a guide in providing a development density that provides ample open space and protects natural resources unique to the community.

2. Open Space Definitions and Priorities

Open space has been defined clearly in prior plans to include watersheds, wetlands, swamps, stream channels, flood plains, wildlife preserves, and forest and land reservations. The 1973 Open Space Plan classified open space into the following functional categories:

Urban Design: Features that help define the character of development by providing buffers to differing land uses or densities, defining neighborhoods, provide unique landforms or establishing variety and contrast in developed areas.

Recreation: Areas that provide active and passive recreational opportunities including neighborhood parks, ball fields, school-park complexes, etc.

Conservation: Areas that contain unique natural resources and habitats including soil, water, wildlife, and vegetation features.

Scenic: Areas that contain attractive, unique and visible attributes

Historic: Sites and structures that possess historical interest and importance

The focus of open space protection as proposed in the 1973 open space plan is on land areas that meet one or more of these listed functions or criteria. In the 1973 Plan, this focus manifested itself into a list of geographic areas that meet the selected criteria. When establishing new geographic priorities for open space conservation, these previously identified land areas should be reviewed, and if still available, considered for protection.

The importance of these criteria are as relevant today as they were in 1973 and can still act as a guide in prioritizing land and assessing its relative value as it becomes available for protection. In addition, assembling open space areas into linkages or "greenways" has become a popular conservation technique. Rather than assembling a patchwork of open space areas with little or no relation to each other, establishing greenway corridors provides a mosaic of protected land with the added benefit of allowing wildlife to move from one protected space to another as well as provide space for recreational trails linking open space areas.

In using the above open space categories as a guide in prioritizing land for open space protection, an important consideration to make is balancing active and passive uses. In

other words, protecting open space for the purposes of active uses such as playing fields as well as passive uses such as natural resource conservation/preservation. In order to effectively strike this balance, it is important to be able to clearly distinguish between the two. This is often easier said than done due to differing opinions in the community regarding what constitutes an active or passive use and which is more important to the community. However, defining open space is an important part of the planning process that warrants consideration as land areas are prioritized for open space protection.

Parks, recreation areas and natural open space constitute the range of open space in the Borough of Naugatuck. While parks are often defined as developed open space, the amount of development varies. A downtown park is likely to be a primarily paved space with a few plantings, while a large community or state park will have large areas of open space with footpaths. Recreation areas are also developed open space used for sports, such as baseball or soccer fields, basketball or tennis courts. Both of these types of undeveloped areas can be considered "active" uses of varying degrees depending on their level of development.

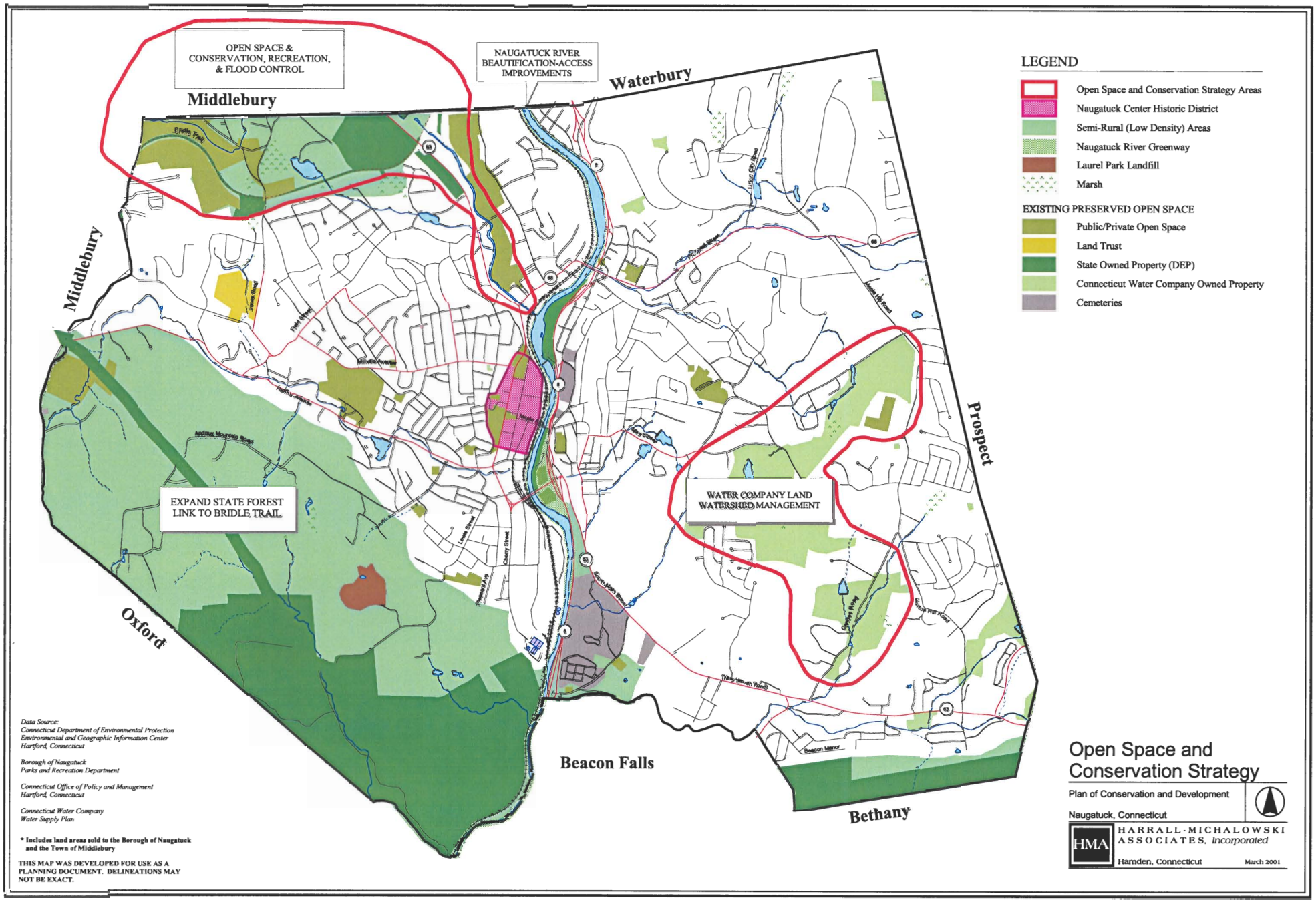
Natural open space, on the other hand, is usually raw undeveloped land and when left in its natural state for conservation or preservation purposes is considered "passive" open space. The function of passive open space has less to due with addressing the recreation needs of the community more to due with protecting the environment. For example, passive uses of open space may include river / stream bank protection or providing plant and wildlife habitat. The functional categories listed above can provide a basis for further defining active and passive open space. For example, active uses may include recreation, urban design and historic categories while passive uses may include conservation or scenic areas.

The specific features that require attention are described here and illustrated on the maps of the Borough's key environmental resources. In addition, an Open Space and Conservation Strategy Map has been prepared which displays a variety of open space conservation recommendations. The general policy with respect to the identified resources is to attempt to protect, enhance and link these resources. The following describe specific natural resource assets worthy of open space conservation.

- **Surface Water**

  Naugatuck is characterized in part by its watercourses. The Borough is divided by five sub-regional river basins which includes the Naugatuck River, dividing the Borough in half from the north to the south; the Hop Brook to the northwest; Long Meadow Pond Brook to the west; Fulling Mill Brook to the northeast; and Beacon Hill Brook to the southeast. Collectively these watersheds provide drainage to Naugatuck's 16.5 square miles of land area.

  Lakes, ponds and wetlands are widely dispersed across the landscape adding to the Borough's hydrographic character. This dispersion is in part due to the varying terrain and steep topography, characteristic of the Naugatuck Valley. These features complement the Borough's natural drainage system by providing wildlife habitat, attenuating floodwaters and providing filtration to toxins and sediments.


OPEN SPACE & CONSERVATION, RECREATION, & FLOOD CONTROL
NAUGATUCK RIVER BEAUTIFICATION-ACCESS IMPROVEMENTS
EXPAND STATE FOREST LINK TO BRIDLE TRAIL
WATER COMPANY LAND WATERSHED MANAGEMENT
Middlebury
Waterbury
Prospect
Oxford
Beacon Falls
Bethany
LEGEND
Open Space and Conservation Strategy Areas
Naugatuck Center Historic District
Semi-Rural (Low Density) Areas
Naugatuck River Greenway
Laurel Park Landfill
Marsh
EXISTING PRESERVED OPEN SPACE
Public/Private Open Space
Land Trust
State Owned Property (DEP)
Connecticut Water Company Owned Property
Cemeteries
Data Source:
Connecticut Department of Environmental Protection
Environmental and Geographic Information Center
Hartford, Connecticut
Borough of Naugatuck
Parks and Recreation Department
Connecticut Office of Policy and Management
Hartford, Connecticut
Connecticut Water Company
Water Supply Plan
* Includes land areas sold to the Borough of Naugatuck and the Town of Middlebury
THIS MAP WAS DEVELOPED FOR USE AS A PLANNING DOCUMENT. DELINEATIONS MAY NOT BE EXACT.
Open Space and Conservation Strategy
Plan of Conservation and Development
Naugatuck, Connecticut
HMA
HARRALL-MICHALOWSKI ASSOCIATES, Incorporated
Hamden, Connecticut
March 2001

The many dams and reservoirs around the Borough are evidence of the human activity that has taken place on the watercourses over the years. While these structures have altered the natural flow of water, they have provided some of the resources necessary to keep the economy flowing. Recently, the Connecticut Department of Environmental Protection (DEP) and the Borough have taken an interest in returning portions of the Naugatuck River to its natural condition by removing some of the dams and restoring the natural vegetation. These habitat restoration measures could result in the return of sea-run trout and American Shad, a first since about 1800.

- **Ground Water**

The southeastern portion of the Borough, including portions of Prospect and Bethany, contain significant stratified drift aquifers and public water supply wells. These aquifers, including the area of contribution and recharge, are mapped by the DEP for purposes of aquifer protection. These are very unique and fragile resource areas deserving of special attention. These areas and their significance to Naugatuck's public water supply system are described in more detail in the Community Facilities section of the Plan.

- **Soils**

By examining the soil characteristics of the Borough, other important natural resource features can be made discernible. Within in Naugatuck, steep slope soils or soils with a slope of 15 percent or greater, are a dominant feature. In addition, wetland soils are evident in the Borough. These are the soil types the state statutes reference in determining wetland areas subject to regulation by the Inland Wetlands Commission. Together these soil features can be used to identify general areas of the Borough that are subject to development constraints.

Other important soil features evident in the Borough are the Prime Farmland and State Important Farmland soils. These soil types are classified as areas where conditions are favorable to produce sustained crop yields. By identifying these soil types, farming areas with long-term crop potential can be identified and factored into a farmland preservation strategy. In Naugatuck, prime farmland soils are widely dispersed in part due to the varying topography of the Borough.

- **Open Space, Woodlands and Watersheds**

Within Naugatuck there are certain geographic features of State and Regional significance. This includes the Naugatuck River, which is a scenic resource, a natural habitat and a recreational outlet. There is the Whittemore Glen State Park, the State Bridle Trail and the Naugatuck State Forest. Along Route 8, the DEP maintains water access for the Naugatuck River. In addition, other major open space features include the municipal parks and playgrounds, as well as the land owned by the Connecticut Water Company. These lands provide excellent recreational opportunities and provide natural habitat for a variety of wildlife.

When a new subdivision is proposed at a site through which there are established trail or wood roads, public access easements over the trails should be part of the open space and traffic plan for the development.

- **Protection Strategy**

An acquisition program to protect key natural resource sites is the most definitive type of conservation program. The level of municipal ability to fund an open space organization effort may be a subject for lively discussions.

In Naugatuck, a one-mill levy is roughly equivalent to $550,000 annually. During 1997 - 1998 the Connecticut Department of Environmental Protection acquired numerous properties around the State totaling about 1,920 acres. Acquisition ranged ½ acre to 375 acres in size. Overall, the average price paid was about $9,910 per acre. Were the Borough of Naugatuck able to acquire open space lands at that average price, a dedication of one mill to that purpose could acquire about 55 acres per year.

An alternative approach might be to bond for open space acquisition. If the one mill amount were dedicated to debt service on an open space land bond, that amount would support an issue of about $5,000,000 over 20 years. If the Borough were to establish an open space fund in either manner it is unlikely it could purchase all of the identified resource areas. Environmental importance, visibility and price would all be considerations. To keep prices down, the Borough might solicit offers from landowners to see who would propose to sell at the lowest price. The funds might be stretched by purchasing conservation easements rather than full development rights. In addition, there are other open space protection mechanisms available to communities. These include the following:

- ownership of conservation easement
- ownership of development rights
- covenants and restrictions running with the title
- land use regulations (both local and state)
- Public Act 490

The Borough is not the only party interested in open space conservation. The State of Connecticut has an active interest in this field. The National Park Service has been acquiring land along Connecticut's coast and on the Housatonic River. The Army Corps of Engineers has land for flood control and there is a newly established private non-profit land trust in Town seeking to conserve open space.

Acquisitions of regional significance should be coordinated among state, federal, regional and local agencies. These agencies should be encouraged to expand their holdings consistent with the Borough's Plan of Conservation and Development and the Central Naugatuck Valley Regional Plan of Conservation and Development. The Council of Governments should serve as the logical coordinating entity for this effort.

A proposal to be advocated to the State might be expansion of the Naugatuck State Forest to create a link to the State Bridle Trail and the surplus water company lands. Sections of the Naugatuck River have both scenic and recreational potential. The

recent removal of dams along the river and the continued upgrading of sewage treatment plants suggest that this natural habitat will continue to improve for fish and fowl. Designation of the river as a scenic river should be advocated and a river greenway promoted over the length of the river. An organization along the lines of the Housatonic Valley Association might be promoted to become an advocate for river improvement and acquisition of greenway lands and easements.

The Borough of Naugatuck should focus on acquisitions of local significance. In particular, purchases where Borough funded development projects can be combined with open space conservation. Such combinations could include a school site with excess lands to be maintained as open space, or a park and open space package where only a part of the site gets developed for active recreation or an oversized site for a fire station. To assist in coordinating open space initiatives within the Borough, it would be effective to establish an open space committee assigned with the task of implementing open space priorities.

D. Circulation Plan

The focus of the Circulation Plan for the Borough should be on the correction of current deficiencies identified in the Section I.C. as well as management of future development in concert with an adequate road network. Within residential areas of the Borough, the street system should provide for safe and efficient access for residents as well as necessary public services including fire protection. The road network should be improved in order to prevent what are now local streets from becoming collector streets with a negative impact on current residents and a threat to safety. In addition, a detailed plan should be developed for the installation of sidewalks to provide for a safe walking area for pedestrians, particularly children. At a minimum, sidewalks should connect all schools with residential areas within which students are not provided bus transportation.

Within the non-residential development corridors identified elsewhere within this plan, the focus should be placed on access management. A primary goal of access management should be the reduction in the current number of curb cuts and a limitation on the number of cuts as part of future development proposals. In addition, development applications within these corridors should be required to submit a specific traffic and access plan even if the scale of development does not meet the threshold for a State Traffic Commission Certificate. Applicants for projects at a minimum threshold could be exempt from this requirement.

The Commission wishes that the construction of Osborn Road remain as a proposal. An alignment shown as a dotted line on the Land Use Plan represents the proposal included on the 1989 Land Use Plan. The Commission believes that this alignment or another road alignment or solution to provide a second route of access to this residential area should remain part of the Commission's land use and circulation policy.

E. Community Facilities

1. Water Supply

The Connecticut Water Company has a plan for public water service in the Borough which shows that all areas will be served if such service is cost effective. However, due to the topography and development densities of the Borough, there are some areas where this might not be feasible without some public financing participation. The Borough should study in

detail the need for and fiscal implications of joint funding of pumping and storage facilities to serve specific areas of the Borough. Such a study should consider the land use policy recommendations contained in this Plan. Such policies might best be followed to limit the need for such improvements by larger lot size and appropriate open space acquisition.

2. Sanitary Sewers

The limits of the extension of sanitary sewers are contained in the Wastewater Facility Report prepared in 1991 and discussed earlier in this Plan. It is recommended that the extension of sanitary sewers be consistent with the Land Use Plan. Densities of development should not be a product of sewer extension, but rather a product of the land use and quality of life policies discussed in this Plan.

3. Fire Protection Facilities

The issue of the need for a fire station in the southeast portion of the Borough should be resolved through a special study. Part of that study should be the impact that the construction of the Osborn Road connection would have on this issue.

4. Recreation Facilities

Naugatuck's current inventory of recreation facilities compares somewhat favorably to the guidelines in most categories, although comes up short in others. The categories that do not meet the SCORP recommendations include an ice rink, (Baummers Pond is used for skating when weather is favorable) tennis courts, volleyball courts, and field hockey fields. However, it has been noted this comparison with national standards rather than a local needs assessment is not the most valid approach to a quantification of recreational needs. For example, although the inventory of soccer fields meet national standards, local opinion based upon demand and growing levels of participation leads to the conclusion there are un-met needs in these specific active recreation facilities. To quantify these trends, it is recommended that the Borough undertake a facility use and design study to determine specific needs and address operational issues such as facility maintenance and maximizing multiple use facilities. This study would focus on each site at a level of detail not appropriate for the Plan of Conservation and Development. A key consideration of this study should be the location of facilities to be accessible to population concentrations.

Naugatuck Plan of Conservation and Development
Action Agenda

Implementing Agencies: BB - Board of Burgesses; PC - Planning Commission; ZC - Zoning Commission; IWC - Inland Wetland Commission; FD - Board of Fire Commissioners; EDC - Economic Development Commission; PAC - Park Commission; BOE - Board of Education; NVHD - Naugatuck Valley Health District; BE - Borough Engineer; WPCA - Water Pollution Control Authority; BOF - Board of Finance; CNVCOG - Central Naugatuck Valley Council of Governments	**LEAD AGENCY**
GOAL 1: PROTECT AND IMPROVE THE QUALITY OF NAUGATUCK'S GROUNDWATER AND SURFACE WATERS.	
Recommendation Actions:	
1 Prohibit land uses/development that can contaminate groundwater.	PC, ZC
2 Ensure stormwater management practices in new developments to protect groundwater.	PC, ZC
3 Provide information on best management practices for community wells.	NVHD, BE
4 Create aquifer protection zones & regulations.	PC, ZC, NVHD
5 Monitor the adoption of aquifer protection rules as necessary.	PC, ZC, NVHD
6 Identify areas having soils with poor characteristics for septic systems.	NVHD, BE
7 Ensure stormwater discharges are managed appropriately.	PC, ZC, BE
8 Enforce strict rules for erosion and sediment control plans.	PC, ZC, BE
9 Maintain vegetated buffer strips along watercourses.	IWC, PC, ZC
10 Ensure full readiness of public safety providers to deal promptly with hazardous material spills and illegally dumped waste.	FD
11 Establish standards for amounts of impervious cover to protect water quality.	ZC
GOAL 2: CONTINUE TO PROTECT AND PRESERVE ENVIRONMENTALLY SENSITIVE AREAS, RESOURCES, OPEN LANDS, AND HISTORICAL RESOURCES	
Recommendation Actions:	
1 Establish important open spaee corridors and links in a detailed open space plan.	PC, BB, CNVCOG
2 Establish buffer areas along watercourses.	IWC, PC, ZC
3 Ensure communication and coordination among Borough officials and boards to protect important open space areas.	BB, BOF, PC
4 Require a environmental resource inventory for proposals involving a subdivision of 5 or more lots or nonresidential development >3 acres.	PC, ZC
5 Establish a Borough fund for the purchase of critical open space parcels.	BB, BOF
6 Enlist assistance of land trusts and conservation organizations for land preservation.	BB, BOF
7 Establish an Open Space Commitee to implement the Open Space Plan.	BB
8 Support preservation in the Naugatuck Center Historic District.	BB, PC, ZC
9 Provide adequate land to meet recreation needs.	PAC, PC, BB
10 Work closely with Connecticut Water Company to preserve excess property	PC, BB
11 Implement the concept of a Naugatuck River Greenway .	PC, BB, BOF, PAC, CNVCOG
GOAL 3: GUIDE RESIDENTIAL GROWTH OF THE BOROUGH TO ENSURE CONTINUATION OF THE CURRENT MIX OF HOUSING TYPES.	
Recommendations Actions:	
1 Create a new R-65 District for areas designated as Semi-Rural without public sewer and water.	ZC
2 Map R-45 District for areas designated as Suburban Residential with public sewer and private well. Areas with public sewer and water mapped as R-30.	ZC
3 Develop subdivision regulations that include open space provisions.	PC
4 Establish development standards for single-family housing on slopes.	PC, ZC
5 Subdivision regulations should ensure preservation of semi-rural character in semi-rural areas.	PC
6 Consider the adoption of an affordable housing provision in the zoning regulations.	PC, ZC

Implementing Agencies: **BB** - Board of Burgesses; **PC** - Planning Commission; **ZC** - Zoning Commission; **IWC** - Inland Wetland Commission; **FD** - Board of Fire Commissioners; **EDC** - Economic Development Commission; **PAC** - Park Commission; **BOE** - Board of Education; **NVHD** - Naugatuck Valley Health District, **BE** - Borough Engineer; **WPCA** - Water Pollution Control Authority; **BOF** - Board of Finance; **CNVCOG** - Central Naugatuck Valley Council of Governments	**LEAD AGENCY**

GOAL 4: ACHIEVE A PLANNED GROWTH OF BUSINESS, COMMERCIAL AND INDUSTRAIL DEVELOPMENT THAT WILL STRENGTHEN THE BOROUGH'S TAX BASE AND INCREASE EMPLOYMENT OPPORTUNITIES

Recommended Actions:		
1	Continue to implement full occupancy of the Naugatuck Industrial Park including a marketing program.	EDC
2	Expand the availability of industrial sites through cooperative efforts with the City of Waterbury in the development of the Waterbury-Naugatuck Commerce Park.	BB, PC, EDC
3	Encourage revitalization of the Naugatuck Downtown with a mix of retail, service, institutional and governmental uses.	BB, PC, ZC, EDC
4	Provide for controlled development within the Rubber Avenue and New Haven Road corridors without adverse impact on adjacent residential areas.	PC, ZC
5	Adopt an access management program for the Rubber Avenue and New Haven Road corridors.	PC, ZC
6	Consider re-zoning of some residential areas within the corridors to provide for planned growth.	ZC, PC
7	Study the potential for commercial redevelopment in the Spring Street and Bridge Street Area building on strength of Big Y Plaza.	PC, EDC, ZC
8	Develop a plan for the Route 68 Union City Road Area to provide for neighborhood commercial and other appropriate development.	PC, EDC, ZC

GOAL 5: ENSURE THAT THE ROAD NETWORK SERVES THE TRAVEL AND TRANSPORT NEEDS OF NAUGATUCK

1	Integrate improvement of roads as recommended in the Plan of Conservation and Development with the capital budget process to prioritize improvements.	BB, BE, PC, BOF
2	Prepare and adopt an access management plan for Rubber Avenue and New Haven Road corridors.	PC, ZC
3	Develop a system of sidewalks to connect residential areas with public facilities particularly schools. Possibly integrate with open space linkages.	BB, PC, BE
4	Increase participation in the Regional Transportation Improvement Program (TIP) to address significant transportation issues.	PC, BE, BB, BOF, CNVCOG
5	Encourage and support use of alternative modes of transportation including rail, bus and bicycle.	PC, BE, CNVCOG

GOAL 6: PROVIDE THOSE COMMUNITY FACILITIES AT LOCATIONS AND WITH A CAPACITY TO SUPPORT ORDERLY GROWTH OF NAUGATUCK

Recommended Actions:		
SANITARY WASTE DISPOSAL:		
1	Coordinate sewer expansion with Land Use Plan.	PC, WPCA
2	Provide wastewater treatment on a regional basis.	BB, WPCA

Implementing Agencies: **BB** - Board of Burgesses; **PC** - Planning Commission; **ZC** - Zoning Commission; **IWC** - Inland Wetland Commission; **FD** - Board of Fire Commissioners; **EDC** - Economic Development Commission; **PAC** - Park Commission; **BOE** - Board of Education; **NVHD** - Naugatuck Valley Health District; **BE** - Borough Engineer, **WPCA** - Water Pollution Control Authority; **BOF** - Board of Finance, **CNVCOG** - Central Naugatuck Valley Council of Governments		**LEAD AGENCY**
WATER:		
1	Investigate feasibility of cooperative funding between the Borough and the Connecticut Water Co. to provide water storage and transmission facilities in areas at risk of well failure.	BB, BOF
2	Adopt aquifer protection regulations.	PC, ZC
FIRE PROTECTION		
1	Address future facility and equipment needs as required.	FD, BOF
TOWN GARAGE:		
1	Continue with plans to construct new public works garage.	BB
2	Determine reuse for present garage.	BB, PC
GENERAL GOVERNMENT FACILITIES:		
1	Establish long-range facility planning committee.	BB, PC
COMMUNITY CENTER		
1	Address possible future development of a community center.	PC, PAC, BB
SCHOOLS		
1	Analyze existing facilities to determine ability to accommodate growth.	BOE
2	Pursue identification of new school sites or expansion to existing sites.	BOE, PC

GOAL 7: UTILIZE THE LAND USE PLAN AND SUPPORTING RECOMMENDATIONS IN THE PLAN OF CONSERVATION AND DEVELOPMENT AS A GUIDE FOR PUBLIC POLICY BY ALL BOARDS AND COMMISSIONS IN NAUGATUCK.

Recommendation Actions:		
1	All Boards and Commissions should become familiar with the Plan, actively consult in their decision making processes, and seek to conform with, support, and further it's goals and objectives.	All Borough Agencies
2	Revise zoning and subdivision regulations to conform to this plan.	PC, ZC
3	Consult the plan and base data developed for it in making major development decisions.	BB, PC, ZC
4	Ensure that development does not outrun the Borough's ability to pay for infrastructure and services it requires.	BB, BOF, PC, ZC